A DISTRIBUTOR FOR

MACOM

CABLE HOME GROUP

Satellite Receivers Ltd.

414-432-5777

MACOM

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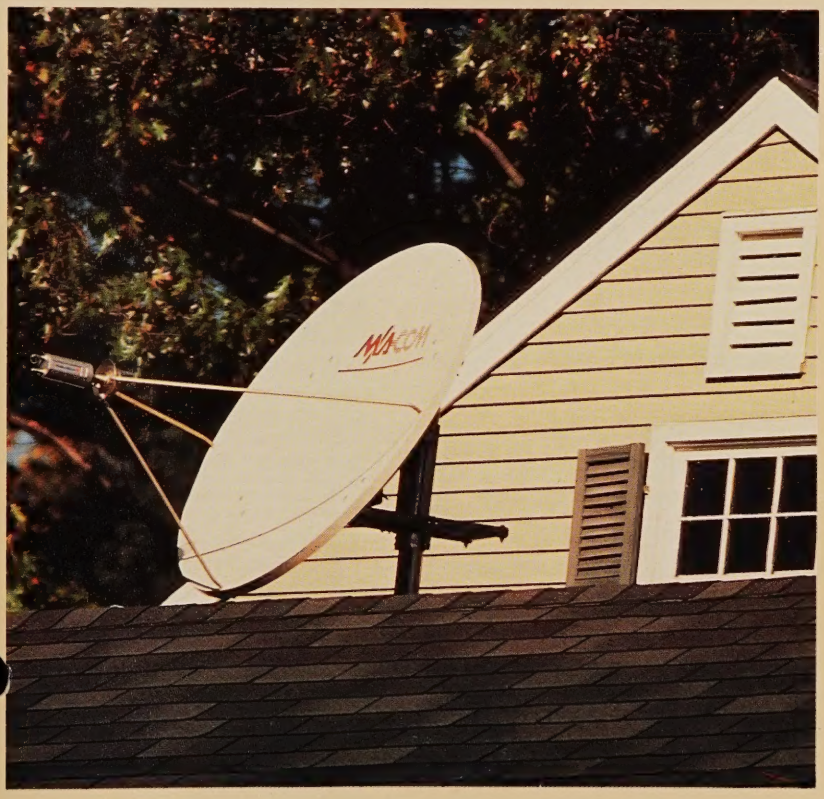
"World Leader In Satellite Antenna Systems"



The Cable Home Group

A World Leader in Communication Technology

The M/A-COM Cable Home Group is part of M/A-COM Inc., a high technology corporation which began operations in 1950 specializing in the manufacturing of state-of-the-art microwave transmission products.

Today's M/A-COM includes 8 operating divisions producing equipment for satellite communications, data communications, cable TV and a broad range of microwave products for government, commercial and telecommunication applications. Recognized as a world leader in products for the processing and transmission of information, today's M/A-COM is an international company with corporate offices in Burlington, Massachusetts and manufacturing facilities located across the United States, in Canada, and in Great Britain.

Created From Three Industry Leaders

The Cable Home Group was created by the successful M/A-COM management strategy which combines compatible operating companies into strong organizational units. The Cable Home Group has combined the talents, superb products and proven market performance of three M/A-COM companies, M/A-COM PRODELIN, M/A-COM COMM/SCOPE, and M/A-COM COMM/SCOPE Marketing.

A Leading Manufacturer of Satellite Antenna Systems

From its beginning in 1945, PRODELIN has been a leader in antenna technology pioneering both processes and new products. Its many firsts include (patent pending) compression molding of segmented fiberglass antennas—a revolutionary process creating the most durable antennas in the industry.

PRODELIN expanded into satellite electronics in 1982 and today its products, along with those from other M/A-COM divisions, have combined to produce a complete line of satellite antenna systems which set the standard for the entire satellite industry.

America's First Name in Coaxial Cable

Since its entry into coaxial manufacturing in the 1950's COMM/SCOPE has experienced phenomenal growth. It grew with the cable industry, expanding its manufacturing capacity, its research and development staff and its product line. Strict quality control accompanied these innovative processes enabling COMM/SCOPE to be first in both capacity and quality. As a result, today's COMM/SCOPE CATV and Network coaxials have set the industry standard for design, quality and performance.

Providing Skills For An Expanding Company

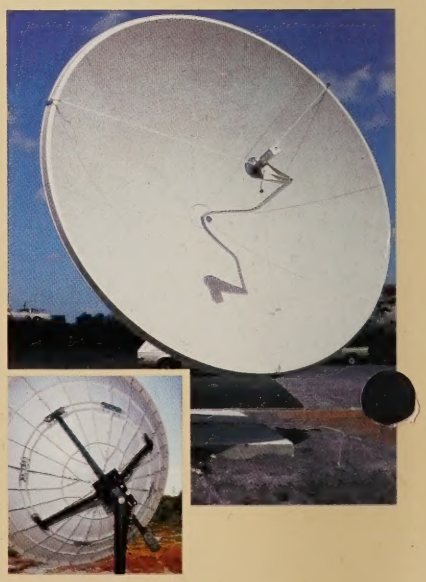
From its founding in 1975 as COMM/SCOPE Marketing, the Cable Home Group's Marketing and Sales staff has been an industry leader in providing professional marketing services for communication products. Today its proven expertise in sales, customer service, technical services and advertising are playing an important role in the continuing growth of the M/A-COM Cable Home Group and its state-of-the-art product line.

Advanced Products From the Cable Home Group

PRODELIN Satellite Antenna Systems

The Cable Home Group manufactures a complete line of PRODELIN satellite antenna systems for commercial and consumer markets. From mount to high performance receiver, each PRODELIN system features state-of-the-art design and superb craftsmanship. Reflectors are currently available in sizes ranging from .75 to 3.7 meters. Each is manufactured from compression molded fiberglass, a material unsurpassed in the industry for strength and durability.

The revolutionary PRODELIN line also includes sturdy universal and T-bar mounts, an assortment of advanced feeds and pre-set feed supports, sturdy guywire kits and the industry's most advanced satellite receivers.



M/A-COM Satellite Electronics

Other M/A-COM divisions also manufacture precision electronic components for commercial and residential satellite antenna systems. These components include: Omni Rotors, Omni Polarizers, 3.7-4.2 GHz TVRO Power Dividers, 950-1450 MHz TVRO Power Dividers, Omni Pulse Decoders, 3.7-4.2 GHz DC Blocks, and 3.7-4.2 GHz GaAs FET Low Noise Amplifiers. Each component is manufactured with the reliability that has made M/A-COM a prime supplier for critical government and defense programs. Each component is designed to perfectly integrate with M/A-COM PRODELIN components to create the most advanced satellite antenna systems in the industry.

COMM/SCOPE CATV Coaxials

COMM/SCOPE CATV Coaxials from the Cable Home Group are America's first choice for quality and performance. For trunk and distribution applications, the Cable Home Group manufactures Parameter I®, Parameter III® and the revolutionary Quantum Reach™ series of coaxial cables. Each trunk and distribution cable is available in configurations for aerial or underground installation.

The Paramedrop® line of dropwire includes cables in RG 6, RG 11, and RG 59 sizes. All are available in single, dual, single messengered and dual messengered configurations. Each dropwire configuration is also available with varying degrees of braid coverage to fit specific installation requirements.

COMM/SCOPE Network Coaxials

The Cable Home Group also manufactures COMM/SCOPE Network Coaxials, a collection of state-of-the-art coaxials for plenum, data transmission, industrial, military and telecommunication applications. The extensive line includes a wide range of plenum products in single, dual, twinaxial and Ethernet type constructions. A wide variety of 50 ohm, 75 ohm and 93 ohm cables is also available. Special application coaxials are manufactured in configurations ranging from 17[illegible] to 223/U MIL-C-17 type and in triaxial configurations in RG 59/U, RG[illegible]/U and RG 11/U sizes. Network trunk cables are manufactured in many sizes in both jacketed and unjacketed configurations.

PRODELIN Antenna

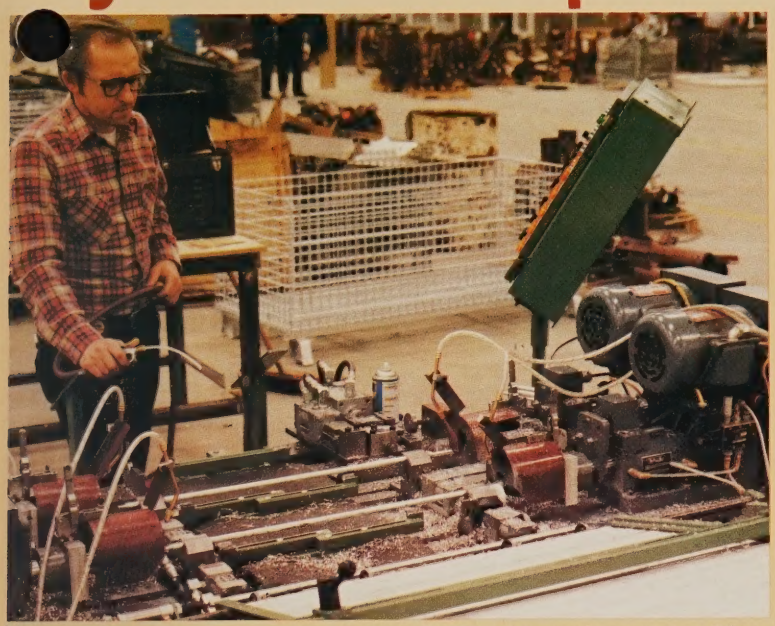
The new PRODELIN Antenna Systems plant in Newton, North Carolina.

DBS antenna components pass through a chromate conversion line receiving an environmentally protective finish.

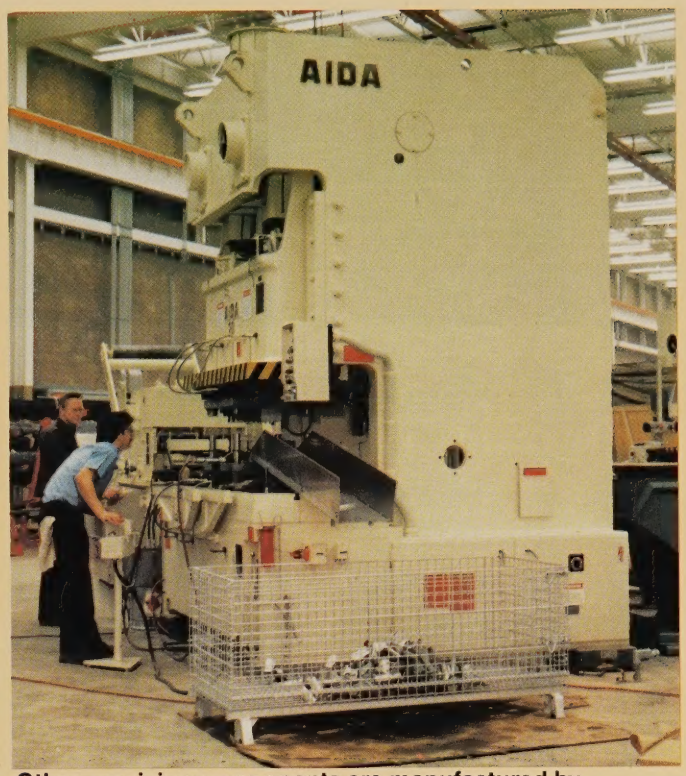
Compression molded fiberglass produces the most durable reflector on the market.

Finished components are assembled to produce PRODELIN DBS antenna mounts which give outstanding performance over a wide range of operating conditions.

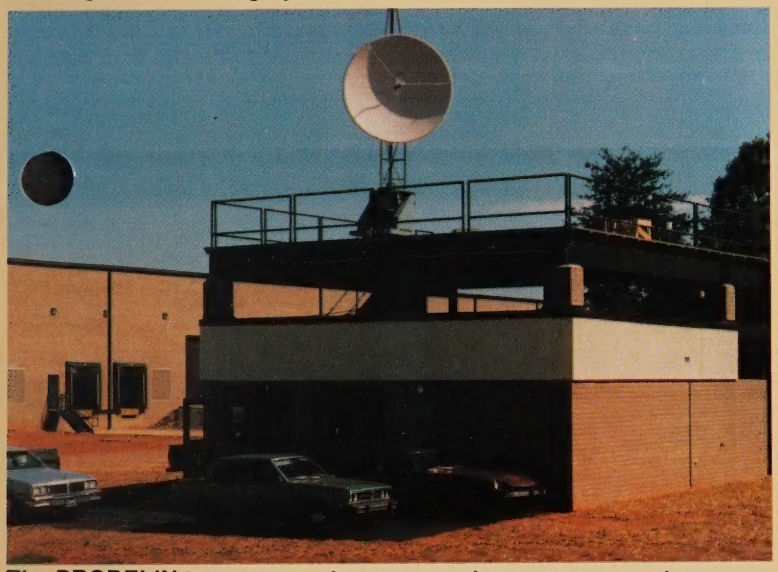
Systems Operations



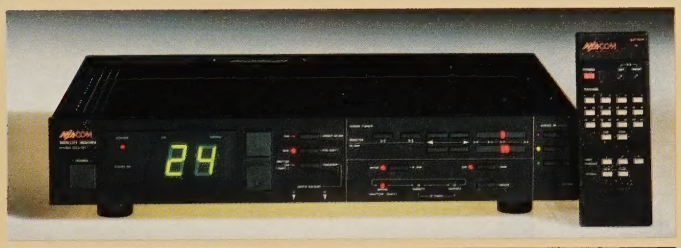
Many antenna components are manufactured by automated cutting, bending and threading operations.

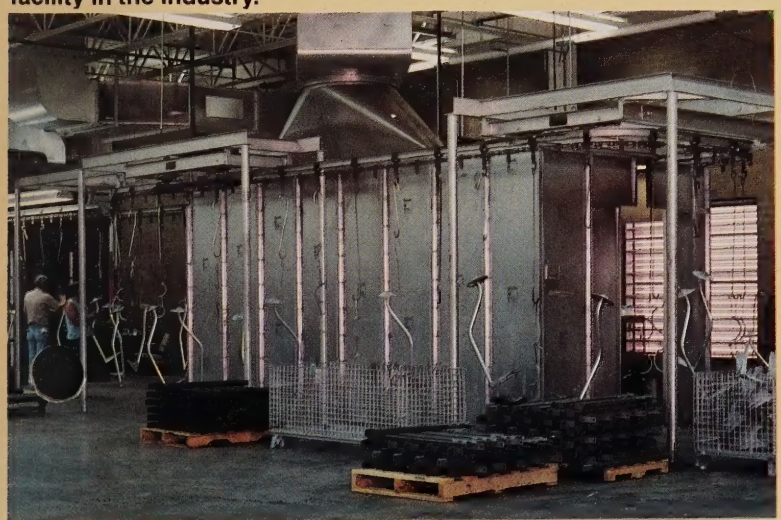


Other precision components are manufactured by PRODELIN's large, automated presses.



The PRODELIN test range—the most modern antenna testing facility in the industry.



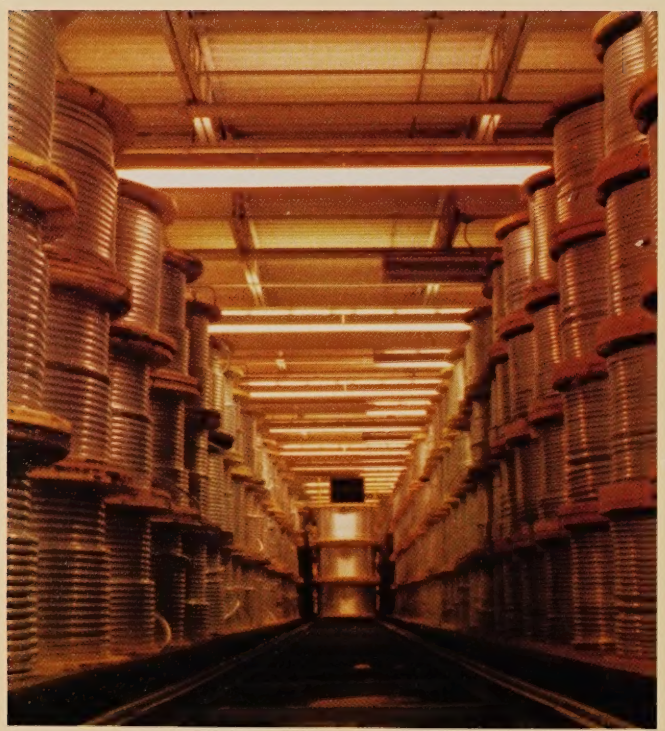


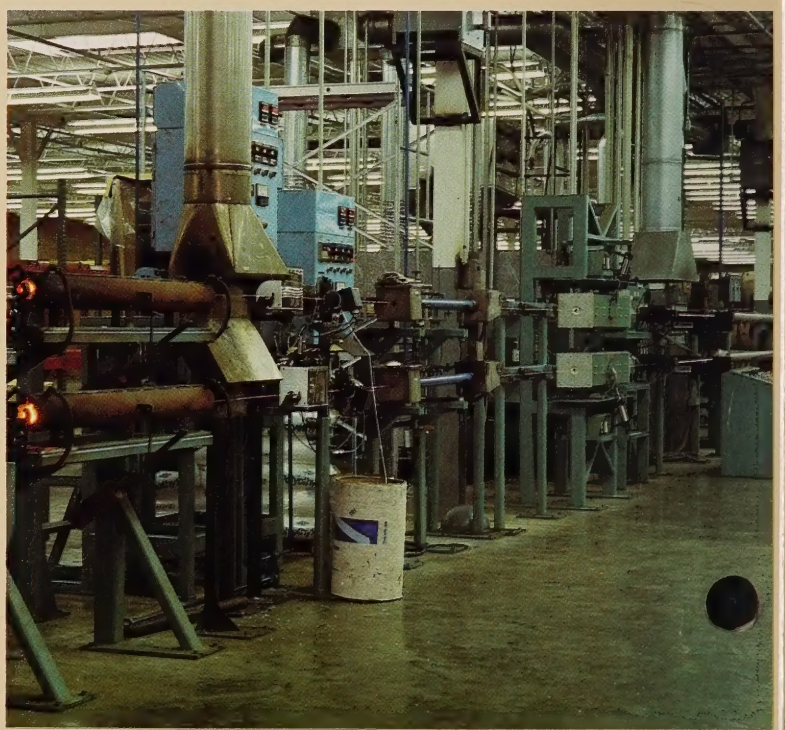
Modern spraying and drying processes produce a tough, protective finish for metal antenna components.

Built for years of dependable service, state-of-the-art M/A-COM receivers work in tandem with other components to create the most advanced antenna systems in the industry.

COMM/SCOPE

The mammoth COMM/SCOPE manufacturing complex at Catawba, North Carolina.





State-of-the-art technology plays a vital role in manufacturing COMM/SCOPE coaxials.

Cable Operations

The most modern engineering facility in the industry.

A skilled staff develops new products and monitors production quality.

Extensive field trials provide the ultimate test for new cable designs.

Computer monitored sweep testing insures consistent quality.

The spacious Catawba Service Center features computer indexed storage space for CATV and Network coaxials.

A Commitment To Service

Dedicated Personnel

To insure that questions receive the most accurate and rapid answers, we extensively train our salesforce. We also employ a skilled Technical Services staff for answers to the most difficult questions and for solutions to problems in the field.

Efficient processing and shipment of orders is made possible by a great number of dedicated personnel. Our Customer Service representatives receive and diligently follow each order. Data Processing personnel enter, store and retrieve information regarding each order. Warehouse personnel at our Catawba Service Center in North Carolina and at our regional distribution centers in Dallas, Ft. Wayne, Indiana and Huntington Beach, California make sure that Cable Home Group products are properly handled and promptly shipped.

Skilled technicians provide professional service for electronic components.

Electronics Service

Comprehensive service for M/A-COM's satellite systems electronics is provided at the Cable Home Group's modern Electronics Service facility. Its skilled staff uses sensitive equipment to insure top performance from each system component.

Efficient Deliveries

The best in coaxials and satellite antenna systems deserves the best in delivery care. That's why the Cable Home Group maintains an extensive fleet of trucks with Cargo Master equipped trailers. Manned by professional drivers, each truck is able to deliver products on time and to a customer's location.

The best in delivery care is made possible by the M/A-COM fleet.

A Continuing Commitment

Modern plants, state-of-the-art products and superb service are some of the reasons why the M/A-COM Cable Home Group is a world leader in products for the processing and transmission of information. We have worked hard to become the leader in our field and we intend to remain the leader for many years to come.

Dedicated personnel diligently process orders insuring prompt shipments.

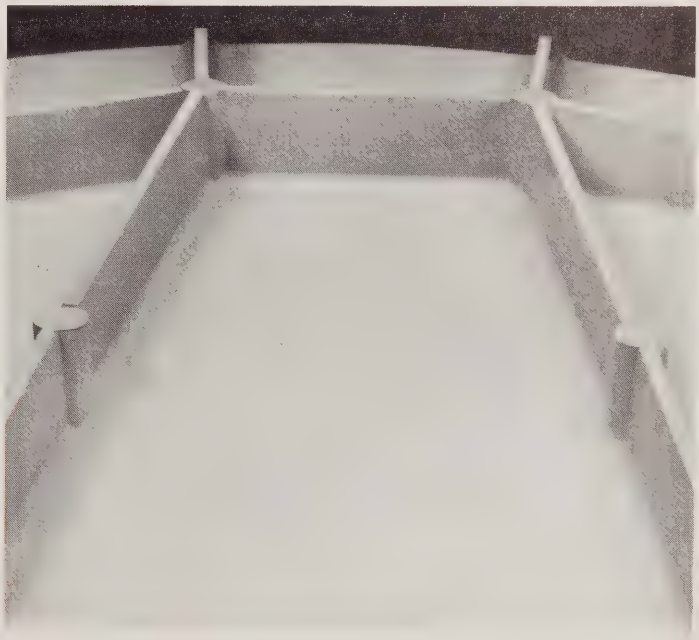
M/A-COM
CABLE HOME GROUP

P.O. BOX 1729
HICKORY, NC 28603
800-438-3331 TELEX: 802-166

M/A-COM PRODELIN's Compression-Molded Fiberglass* Reflectors

High Performance Competitively Priced State-Of-The-Art Reflectors

From M/A-COM, America's leader in communications technology, comes PRODELIN compression molded fiberglass reflectors—the most advanced satellite reflectors on today's market. Built for years of service, each PRODELIN reflector combines high strength glass fibers and resins in a thermal compression molding process. Features include a supporting rib design and light weight segmented construction for high performance and durability.



Compression Molded Fiberglass—For Proven Performance

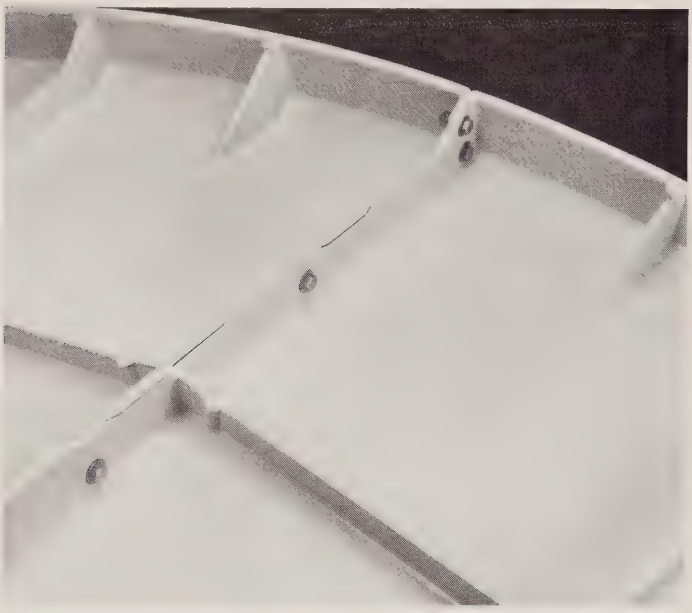
Molded under high temperatures and pressure, PRODELIN reflectors: (1) resist denting and corroding unlike metal antennas, (2) withstand high temperatures and U.V. exposure without warping, unlike other fiberglass processes, and (3) under stress, unlike metal, PRODELIN reflectors resist breakage and retain their original parabolic contours after the stress is removed.

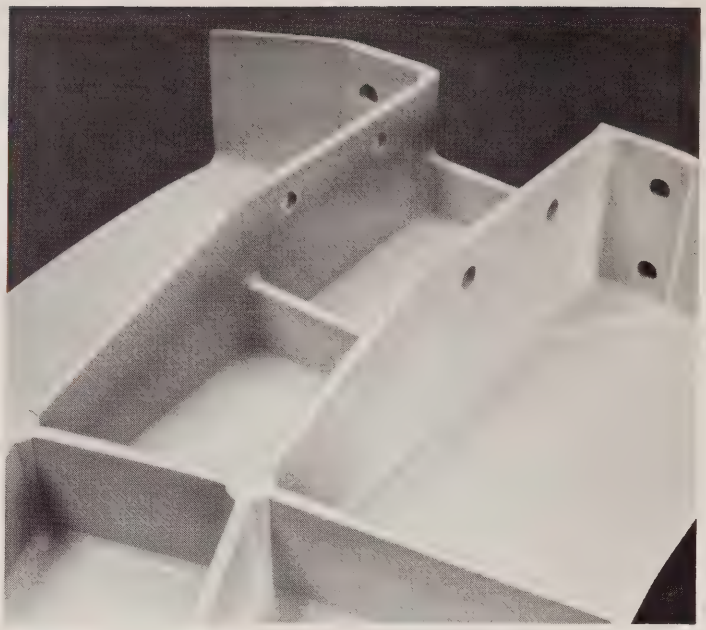
In addition, PRODELIN's compression molding dies allow precise and uniform positioning of the reflective screen and repeatability of surface accuracy—both essential for a high degree of signal quality. Precision compression molding also makes possible a textured uniform front surface which diffuses sunlight, reducing solar heating at the focal point.

*Patent applied for

Segmented Petals for Ease and Economy.

PRODELIN reflectors feature light-weight segmented construction for ease of handling, shipping and assembly. Each interchangeable petal also features interlocking tabs for positive self-alignment, further simplifying reflector assembly.





The Top-Of-The-Line Reflector

PRODELIN compression molded reflectors are available in 2.4 M, 3.0 M, and 3.7 M sizes for residential and commercial applications. Featuring rugged construction and high performance, each PRODELIN reflector is designed to be part of the total M/A-COM system that includes: PRODELIN reflectors, mounts, feed supports; M/A-COM satellite receivers; Omni Polarizers, Omni Rotors and M/A-COM LNBs and LNAs.

PRODELIN Reflectors—Built to Endure

Weather resistant additives in PRODELIN's unique composition allow environmental flexibility under an extreme range of weather conditions.

Temperature Range

Operational	-40° to +60°C

Atmospheric Conditions:

Impervious to salt, pollutants, and corrosive contaminants as encountered in coastal and industrial areas.

Meets or exceeds MIL-STD-810 C

Reflector Specifications:

2.4 M Reflector:	**Shipping Dimensions:**
3 Segmented Petals	Cubic Feet: 48.03
Focal Length: 35.8"	Weight: 140 lbs.
F/D: .373	Color: Beige
3.0 M Reflector:	**Shipping Dimensions:**
8 Segmented Petals	Cubic Feet: 64.4
Focal Length: 35.8"	Weight: 220 lbs.
F/D: .298	Color: Beige
3.7 M Reflector	**Shipping Dimensions:**
10 Segmented Petals	Cubic Feet: 91.3
Focal Length: 43.2"	Weight: 340 lbs.
F/D: .300	Color: Beige

M/A-COM
CABLE HOME GROUP PRODELIN Satellite Antenna Systems P.O. Box 1729 • Hickory, NC 28603 800/438-3331 • 704/324-2200 • Telex: 802-166

A DISTRIBUTOR FOR

CABLE HOME GROUP

RECEIVERS

Satellite Receivers Ltd.

414-432-5777

M/A-COM introduces T-1 and H-1, the satellite receivers that deliver studio quality.

The system makes the picture, and our new receivers are an important part of the M/A-COM system.

M/A-COM receivers have microprocessor controls. When it comes to programming and tuning, the first time is the last time. No need to repeat the process every time a receiver is turned on. And in the event of a power failure, there's microprocessor memory retention.

Other M/A-COM receiver features include:

- Parental supervision channel lock-out.
- A single IR remote control for T-1, H-1 and for the new M/A-COM antenna positioner.
- Acceptance of both mechanical and electronic polarization controls.
- Programmable audio, with up to 72 audio memories on the H-1.
- Dynamic Noise Reduction on the H-1 receiver; Dolby on the T-1.
- User-friendly, attractive design.

In addition, M/A-COM's use of high quality block down conversion permits each receiver to have independent channel selection when multiple television sets are used in the same home.

M/A-COM *Cable Home Group, Marketing and Sales, P.O. Box 1729, Hickory, NC 28603 800/438-3331 704/324-2200 Telex: 802-166*

M/A-COM
CABLE HOME GROUP

The system makes the picture. M/A-COM makes the system.

H-1 AND T-1 SATELLITE RECEIVER SYSTEM SPECIFICATIONS

Every H-1 and T-1 Satellite Receiver System is packaged with an LNB and an infrared remote control unit. Features include automatic polarity selection, Direct or Matrix Stereo Processing and Parental Supervision Control. Refer to the following data for H-1 and T-1 Specifications.

H-1 Satellite Receiver Specifications

GENERAL

RF Input	
Frequency	3.7 to 4.2 GHz
Noise Temperature	120°K max.
Level	—88 dBm ±5 dB
Connection	CPR229G Flange
Image Rejection	greater than 40 dB
IF Input	
Frequency	950 to 1450 MHz
Impedance	75 ohms
FM Static Threshold	8 dB C/N min.
Second IF Section	
Frequency Output	403 MHz
Bandwidth	Over 27 MHz
Noise Temperature	15 dB Nominal
Gain Control	AGC
Tuning Control	AFC
Video	
Bandwidth	10 Hz to 4.2 MHz
Polarity	non-inverted
Dispersion Clamp	Greater than 40 dB
Impedance	75 ohm
Output Level	1V p-p
Connectors	Type F
Baseband Output	1V p-p, 75 ohms
Audio	
Subcarrier	5.0 to 8.5 MHz
Modes	Monaural, Direct and Matrix Stereo
De-Emphasis	75 microseconds
Output Level	2.5V p-p
Impedance	600 ohms, unbalanced
Connectors	RCA
PRIMARY POWER	
Source	114V AC (60 MHz)
Fuse	1 Ampere
ODU POWER	
Voltage	+15 to +21.2V DC
Current	150 mA (max.)
Fuse	0.5 Ampere
Mechanical	
Size	17⅓" (W) x 13⅓" (D) x 3⅓" (H)
Weight	Less than 14 lbs.

T-1 Satellite Receiver Specifications

GENERAL

RF Input	
Frequency	3.7 to 4.2 GHz
Noise Temperature	120°K max.
Level	—88 dBm ±5 dB
Connection	CPR229G Flange
Image Rejection	greater than 40 dB
IF Input	
Frequency	950 to 1450 MHz
Impedance	75 ohms
FM Static Threshold	8 dB C/N min.
Second IF Section	
Frequency Output	140 MHz, upperside heterodyned
Bandwidth	Over 27 MHz
Noise Temperature	15 dB Nominal
Gain Control	AGC
Tuning Control	AFC
Video	
Bandwidth	10 Hz to 4.2 MHz
Polarity	non-inverted
Dispersion Clamp	Greater than 40 dB
Impedance	75 ohm
Output Level	1V p-p
Connectors	RCA
Baseband Output	1V p-p, 75 ohms
Audio	
Subcarrier	5.0 to 8.5 MHz
Modes	Monaural, Direct and Matrix Stereo
De-Emphasis	75 microseconds
Output Level	2.5V p-p
Impedance	600 ohms, unbalanced
Connectors	RCA
PRIMARY POWER	
Source	115V AC ±10% (60 Hz)
Fuse	1 Ampere
ODU POWER	
Voltage	+15 to +21.2V DC
Current	150 mA (max.)
Fuse	0.6 Ampere
Mechanical	
Size	16½" (W) x 11¾" (D) x 2" (H)
Weight	Less than 12 lbs.

Specifications subject to change without notice.

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GENSAT
COMMUNICATIONS CORPORATION

SATELLITE RECEIVER CSR - 1200

PERFORMANCE BY DESIGN

ADS-83102

A cost effective realization of state of the art technology and todays most demanded features. Designed specifically for use with 1GHz Block Downconverter model BDC-1200, the CSR-1200 Consumer Stereo Receiver features a full array of front panel controls and indicators grouped for ease of use. Using 950 MHz – 1450 MHz input, the CSR-1200 is ideally suited for multiple unit installations or as a low cost slave receiver.

The channel indicators are colour coded for vertical or horizontal polarization, with rear panel selectable inverse format switch.

The dual audio and integral stereo decoders permit mono, matrix stereo or discrete stereo reception. Both subcarriers are continuously tunable from 5 – 8 MHz.

The receiver includes a basic navigator system permitting east/west control of the antenna drive. A front panel meter provides indication of position when connected to the feedback potentiometer of the antenna drive system.

SPECIFICATIONS:

RF/IF

Input Frequency :	950 MHz to 1450 MHz
Input Impedance :	75 ohms.
Input Level :	–60 to –20 dBm
Bandwidth :	500 MHz
IF Frequency :	70 MHz
IF Bandwidth :	24 MHz
Image Rejection :	23 dB nominal
Threshold Level :	better than 8dB C/N

VIDEO :

De-Emphasis :	CC1R 405–1, 525 lines
Frequency Response :	to 4.2 MHz
Dispersion Removal :	max 2 IRE
Output Level :	1 VPP
Output Impedance :	75 ohms.
Output Polarity :	negative or positive sync

AUDIO :

Subcarriers (A or B) :	5.0 – 8.0 MHz tunable
Bandwidth :	280 KHz
Mode Select :	–Mono sub A only –Matrix stereo –Discrete stereo
Frequency Response :	50 Hz to 15 KHz
De-emphasis :	75 u.s.
Output Level :	150 MV/10K min.
Harmonic Distortion :	1% max.

REMODULATOR : Plug-in remodulator, switchable for channel 3 or 4

POWER SUPPLY : External 18.5 VAC, 750 MA, table top mount power module.

MECHANICAL : 2.5" x 13.5" x 10"

• ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE •

☐ **Sales & Manufacturing**
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(416) 736-4555, Telex: 06-2175-358

☐ **Sales & Design**
Microdesign Limited
1300 Bay Street
Toronto, Ontario M5R 3K8
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(416) 922-4180

☐ **Sales & Manufacturing**
Electrohome Limited
809 Wellington Street North,
Kitchener, Ontario N2G 4J6
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(519) 744-7111, Telex: 069-55-449

GENSAT
COMMUNICATIONS CORPORATION

BLOCK DOWNCONVERTER
BDC - 1200

PERFORMANCE BY DESIGN

ADS 84101

A fully integrated, dielectric resonator (DRO) stabilized 1GHz Block Downconverter for TVRO Satellite System Applications. The design features input and output buffer amplifiers and printed filter networks for optimum overall performance. The BDC-1200 is compatible with any commercially available LNA. Product quality is assured through superior design and surface mount manufacturing techniques. The rugged, weather proof housing is designed for mounting at the antenna for ease of installation, highest cost reduction and enhanced system performance through greatly reduced cable losses. As an alternate to bolt installation, the BDC-1200 can be mounted directly on the post using nylon straps supplied.

SPECIFICATIONS:

INPUT

Frequency :	3.7 – 4.2 GHz
VSWR :	1.4:1 (15.6 dB)
Noise Figure :	14 dB max.
L.O. Frequency :	5.150 GHz
L.O. Stability :	±2 MHz
L.O. Radiation :	–45 dBm
Connector :	Type 'N' (F)

OUTPUT

Frequency :	950 – 1450 MHz
VSWR :	1.5:1 (14 dB)
Gain :	12 dB min.
Flatness :	±1 dB max.
L.O. Radiation :	–45 dBm max.
Spurious Outputs :	–45 dB max.
Connector :	Type 'F'

GENERAL:

Power Requirement :	18 – 25 VDC, 100 MA (120 MA max.)
Power Feed :	Via type 'F' or optional terminals
LNA Power :	Via type 'N'
Temperature :	–50°C to +60°C
Mechanical :	4.0'' x 4.5'' x 1-1/4'' (excl. mounting)
Mounting :	2 screws or cable ties

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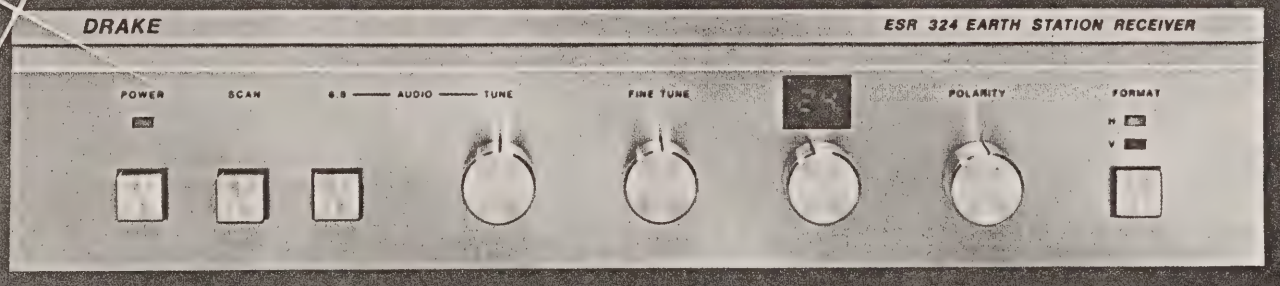
EARTH STATION RECEIVER



ESR324 RECEIVER

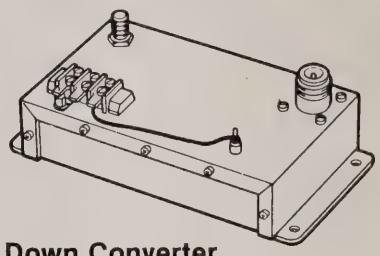
FULL PERFORMANCE—AFFORDABLE

DRAKE®

ESR324 EARTH STATION RECEIVER

The ESR324 offers basic satellite receiver functions in an attractive, low-profile enclosure. A wide-band discriminator provides crisp, noise-free video while a high-gain AFC circuit assures drift-free reception. The ESR324 was designed with operator convenience in mind, providing easy detent front panel selection of transponder, variable audio sub-carrier, scan, and antenna-feed polarization. The integral polarization switching circuitry is directly compatible with the Polarotor™ (I). No external control box is required.

The "imageless mixer design" Down Converter is mounted remotely at the antenna. Remote mounting of the Down Converter can be facilitated by use of the optional SPH24 Splash-proof Housing.



Down Converter

Other convenience features include an LED Channel Display, Polarization "skew" Control and an optional internal FCC approved crystal controlled RF Modulator. A full line of accessories make the ESR324 economical and practical while offering superb performance and convenience.

SPECIFICATIONS

RECEIVER ESR324

IF Input Frequency	70MHz
IF Input Impedance	72 ohms
IF Input Level	−35 to −5 dBm
IF Bandwidth	27MHz
Threshold	Less than 8 dB C/N

VIDEO SPECIFICATIONS

De-emphasis	CCIR 405-1, 525 lines
Frequency Response	20 Hz To 4.2 MHz
Dispersion Removal	Greater than 40 dB
Output Level	1 V p-p, Adjustable ±3 dB nominal
Output Impedance	72 ohms
Output Polarity	Switchable

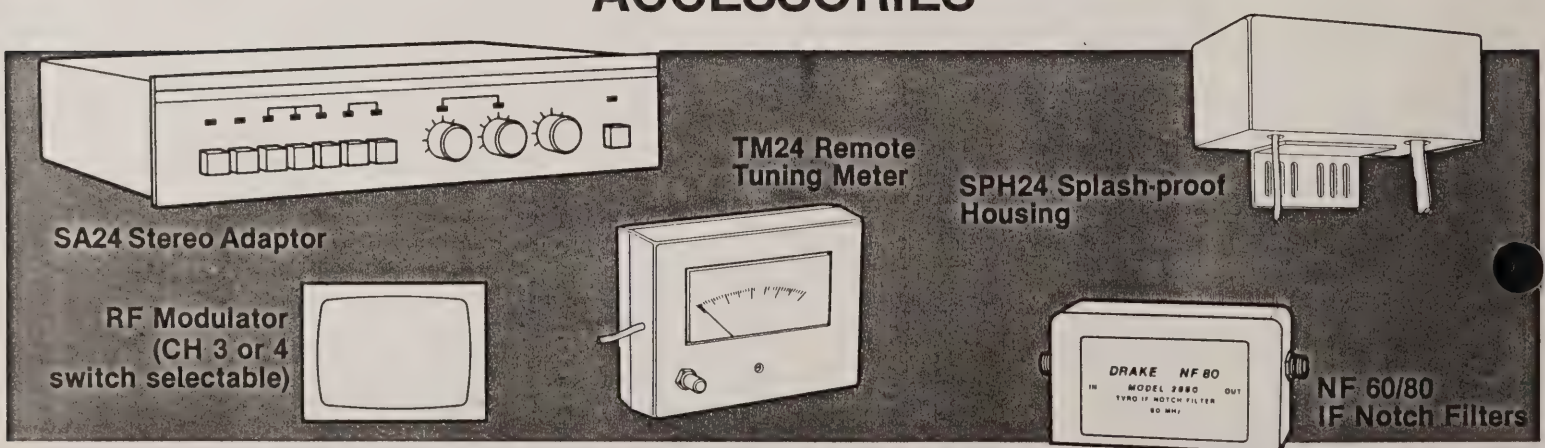
AUDIO SPECIFICATIONS

Subcarrier Frequency	5.5 to 8.0 MHz tunable from front panel with 6.8 MHz Preset
De-emphasis	75 microseconds
Frequency Response	50 Hz to 15 kHz
Harmonic Distortion	Less than 2% T.H.D.
Output Impedance	600 ohm unbalanced
Output Level	0 dBm nominal

DOWN CONVERTER

Input Frequency Range	3.7 — 4.2 GHz
Input Level	−55 to −30 dBm @ 50 ohms
Noise Figure	15 dB nominal
Image Rejection	20 dB nominal
IF Output Frequency	70 MHz
IF Output Impedance	72 ohms
Supply Voltage	14.5 to 18 V.D.C.
Tuning Voltage	−4 to −10 V.D.C. Nominal (Supplied through IF Coaxial Cable)

ACCESSORIES


SA24 Stereo Adaptor
TM24 Remote Tuning Meter
SPH24 Splash-proof Housing
RF Modulator (CH 3 or 4 switch selectable)
DRAKE NF 80
NF 60/80 IF Notch Filters

NOTICE TO CUSTOMER

EARTH STATION RECEIVER

REMOTE CONTROL

ESR240 RECEIVER
INFRARED REMOTE CONTROL

DRAKE®

ESR240 EARTH STATION RECEIVER

The ESR240 Satellite Receiver utilizes the latest concepts in solid state techniques to provide superb performance and versatility. The broadband discriminator provides crisp, clear, noise-free video while high-gain AFC circuitry assures drift-free reception. Additional features of the ESR240, such as digital tuning, variable audio tuning, scan, and infrared remote control, make satellite reception as simple and convenient as conventional television.

The "Imageless mixer design" Down Converter can be mounted remotely at the antenna, greatly simplifying installation by allowing the use of low cost RG-59 type coaxial cable.

Standard features of the ESR240 include automatic TV/satellite antenna switching, Polarotor$^{T.M.}$ I interface, and electronic polarity adjustment. The modern features and striking contemporary styling assures the long term compatibility of the ESR240 with present and future video technology.

SPECIFICATIONS

RECEIVER ESR240

IF Input Frequency	70MHz
IF Input Impedance	72 ohms
IF Input Level	−35 to −5 dBm
IF Bandwidth	25 MHz @ −3 dB
Threshold	Less than 8 dB C/N

VIDEO SPECIFICATIONS

De-emphasis	CCIR 405-1, 525 lines
Frequency Response	20 Hz to 4.2 MHz
Dispersion Removal	Greater than 40 dB
Output Level	1 V p-p, Adjustable +3 dB nominal
Output Impedance	72 Ohms
Output Polarity	Negative Sync. — Switchable
Composite Output	20 Hz to 8 MHz

AUDIO SPECIFICATIONS

Subcarrier Frequency	5.4 to 8 MHz tunable from front panel
Preset Positions	6.2 and 6.8 MHz
De-emphasis	75 microseconds
Frequency Response	50 Hz to 15 kHz
Harmonic Distortion	Less than 2% T.H.D.
Output Impedance	600 ohm unbalanced
Output Level	0 dBm nominal

INTERNAL MODULATOR

Channels	3/4 switch selected
RF Output	3000 uV nominal @ 75 ohms
Stability	Crystal controlled

PROGRAM SELECTOR

Type	Pin diode — automatic
Switching	Front panel override
Isolation	60 dB minimum
Connectors	Type "F"

POLARIZATION

Interface	Polarotor$^{T.M.}$ I and SPDT relay
Adjustment	Electronic front panel "SKEW"

DOWN CONVERTER

Input Frequency	3.7 to 4.2 GHz
Input Level	−55 to −30 dBm @ 50 ohms
Noise Figure	15 dB nominal
Image Rejection	20 dB nominal
IF Output Frequency	70 MHz
IF Output Impedance	72 Ohms
Supply Voltage	14.5 to 18 V.D.C.
Tuning Voltage	−4 to −10 V.D.C. nominal (Supplied through IF coaxial cable)

REMOTE CONTROL

Type	Infrared 37 KHz pulse width modulated
Range	40 ft. nominal
Functions	Channel up/down Fine tune up/down Audio — 6.2, 6.8, Mute, Variable
Keypad	Tactile feedback, LED indicator
Battery	9 VDC transistor

NOTICE TO CUSTOMER

"Use of this device may violate Section 605 of the Communications Act of 1934, as amended, through the unauthorized interception and divulgence of radio communications; or, the use of radio communications for one's own benefit where there is not entitlement to its receipt.

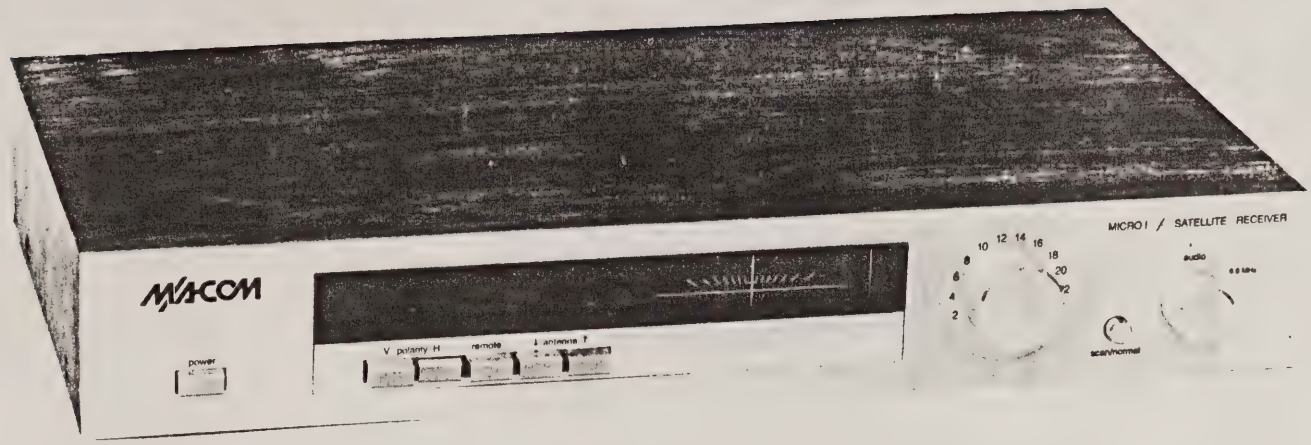
The customer is responsible for compliance with all local, state, and federal government laws and regulations including but not limited to construction, placement and use."

R. L. DRAKE COMPANY

DRAKE®

540 Richard St., Miamisburg, Ohio 45342. USA
Phone: (513) 866-2421
Telex: 288-017

PIONEER MEMBER OF SPACE



M1 SATELLITE RECEIVER

DESCRIPTION

The M1 Satellite Receiver from M/A-COM has been carefully designed to combine the finest consumer electronics features with the high performance and reliability standards for which M/A-COM is famous.

FEATURES. The fine wood-grained styling of the M1 makes it an attractive addition to any room. Soft-touch tuning with center tune meter assures optimum channel selection for superb video quality from any satellite. Continuous audio tuning allows selection of all audio channels between 5.5 and 8.0 MHz for access to the many auxiliary services transmitted via satellite. Five push-button switches provide for polarity selection, antenna positioning, and remote control capability, all with front panel LED indicators.

Additionally, a Video Scan switch allows for rapid hands-off channel scanning when positioning antenna.

OPTIONS

- A Channel 3 or 4 Plug-In Modulator
- An A/B Switch For Easy Selection of Off-Air or Satellite Signals
- A Stereo Processor Providing A Single Connection From the Receiver to Your Stereo Unit
- A Remote Control Providing Video Tuning and Polarity Selection

OUTPUTS. Baseband, audio, and video outputs are provided by RCA phono jacks (Type F connector to RCA adapters are available). LNC connection (70 MHz IN) is provided via a Type F connector and RCA phono jack, and antenna and polarizer control outputs are accessible on a rear panel terminal strip. The M1 works with a dual cable linear LNC providing a 70 MHz signal to the receiver and dc power to the LNC. The M/A-COM Omni Spectra Polarizer features fully electronic polarity switching.

QUALITY. Solid performance, easy-to-use features, and elegant styling make the M1 Satellite Receiver from M/A-COM a standard of excellence in home satellite television.

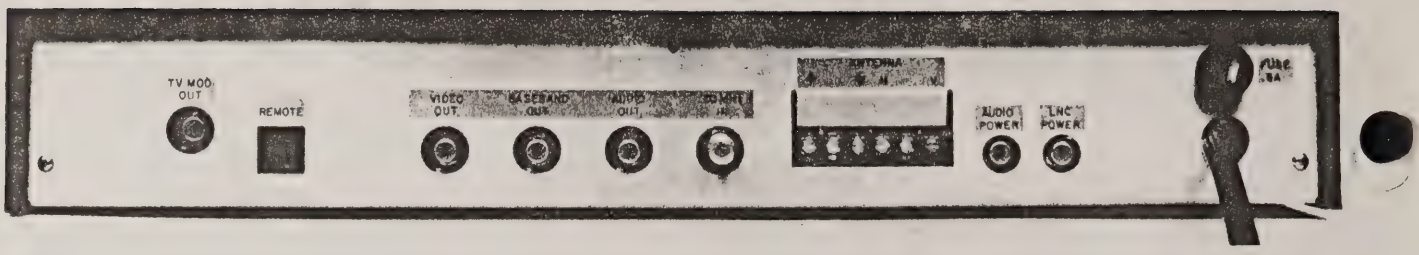
FEATURES

- **"Soft-Touch" Linear Video Tuning**
- **Center Tune Meter**
- **Continuous Audio Tuning**
- **Video Scan Switch**
- **Antenna Up/Down Control with LED Indicators**
- **Polarity Vertical/Horizontal Switch (Compatible with M/A-COM Omni Spectra Electronic Polarizers) with LED Indicators**
- **Brushed Aluminum and Black Molded Front Panel with Low Profile Wood-Grained Cabinet**

OPTIONS

- **Plug-In Modulator**
- **Remote Control with "Soft-Touch" Linear Video Tuning and Polarity Vertical/Horizontal Switch**
- **Stereo Processor**

M/ACOM



SPECIFICATIONS

RF	
Frequency Range	3.7 to 4.2 GHz
Noise Temperature	120° typical
Level	−88 dBm ± 5 dB
Impedance	WR-229 flange
Image Rejection	20 dB

IF	
Center Frequency	70 MHz
Bandwidth	29 MHz
Impedance	75 ohms
FM Static Threshold	10 dB C/N minimum

POWER	
Primary Input	117 Vac ± 10%
Fuse	0.5A Slo-Blo
LNC Power	separate phono connection for dual cable configuration

VIDEO	
Bandwidth	15 Hz to 6 MHz
Polarity	internal jumper
Dispersion Clamp	50 dB
Impedance	75 ohms
Output Level	1V P-P
Connectors	Type F
Baseband Output	1V P-P 75 ohms

AUDIO	
Subcarrier	5.5 to 8 MHz
Frequency Response	15 Hz to 15 kHz
De-Emphasis	75μs
Output Level	2.5V P-P nominal
Impedance	600 ohms
Connector	RCA

All specifications are subject to change without notice.

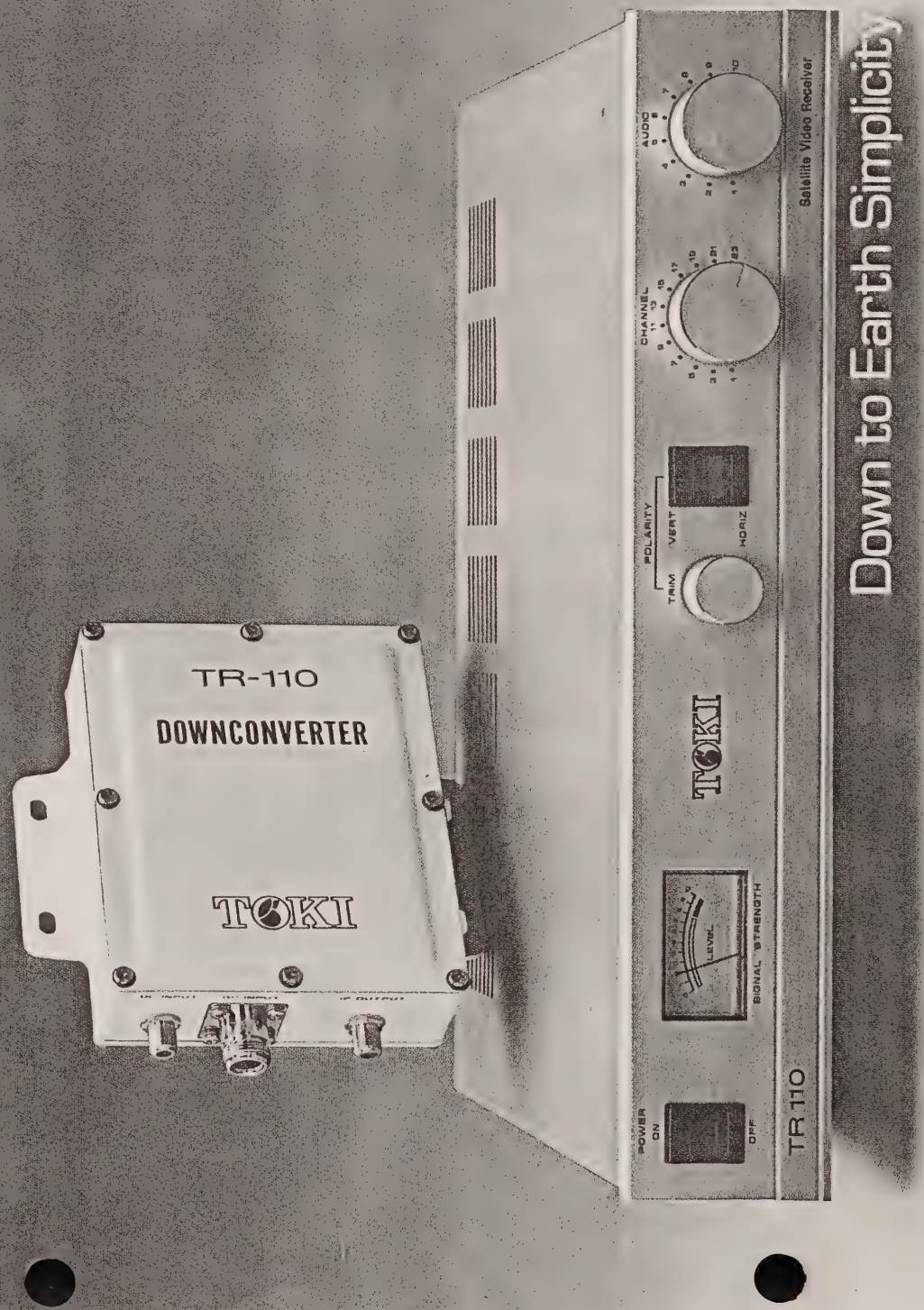
Bulletin 9228 M1

M/A-COM Video Satellite, Inc.
63 Third Avenue
Burlington, MA 01803
Tel. (617) 272-3100
Twx. (710)332-8503
Telex 4430114

TOKI

TR110

POLARIZATION CONTROL



Down to Earth Simplicity

TOKI = THE HIGHEST QUALITY & RELIABILITY IN SATELLITE TVRO ELECTRONICS

FEATURES

- Linear transponder tuning
- Signal strength meter
- Tunable audio
- Built-in AFC
- Externally accessable IF gain control
- Built-in modulator
- Channel 3 or 4 external switch
- Built-in Polarotor control with manual skew
- Weathertight downconverter housing
- Excellent frequency response over 3.7 - 4.2 GHz range

SPECIFICATIONS

• RECEIVER

Input frequency:	70 MHz
Input level:	-45 dBm to -5 dBm
Input impedance:	75 ohm
Input connector	Type F female
Tuning voltage output:	+1 to +16V
LNA power output	+18VDC
IF Bandwidth (3 dB)	24 MHz
Video de-emphasis characteristic	CCIR Rec. 405-1 curve A
Video output level (at 10.75 MHz dev.):	1 Vpp
Video output connector:	RCA phone jack
FM threshold	less than 8 dB
Video S/N at 14 dB C/N:	50 dB (weighted)
Energy dispersion removal:	40 dB
Audio systems:	Mono
Audio tuning:	Tunable
Audio tuning range:	4.8 - 8.2 MHz
Audio output level:	-5 dBm (nominal)
Audio output connectors:	RCA phone jack
AC power output	117V, 60 Hz

DOWNCONVERTER

Conversion type:	Single Conversion
Input frequency range:	3.7 - 4.2 GHz
Input level:	-30 dBm to -57 dBm @ 50 ohms
Input connector:	Type N-female
Noise figure:	13 dB nominal
Image rejection:	16 dB nominal
IF output:	70 MHz ± 15 MHz
IF impedance:	75 ohm
Tuning voltage:	2 to 15VDC
DC power input:	+18VDC
DC power & IF output connectors:	Type F female

PHYSICAL DIMENSIONS

Receiver:	13.3"Wx8.8"Dx2.3"H
Down converter:	4.5"Wx5.5"Dx1.58"H

FOR FURTHER INFORMATION

IN U.S.A. CONTACT

TOKI

8240 LANKERSHIM BOULEVARD
NORTH HOLLYWOOD, CALIFORNIA
91605-1694
(818) 768-4565

IN CANADA CONTACT

TOKI

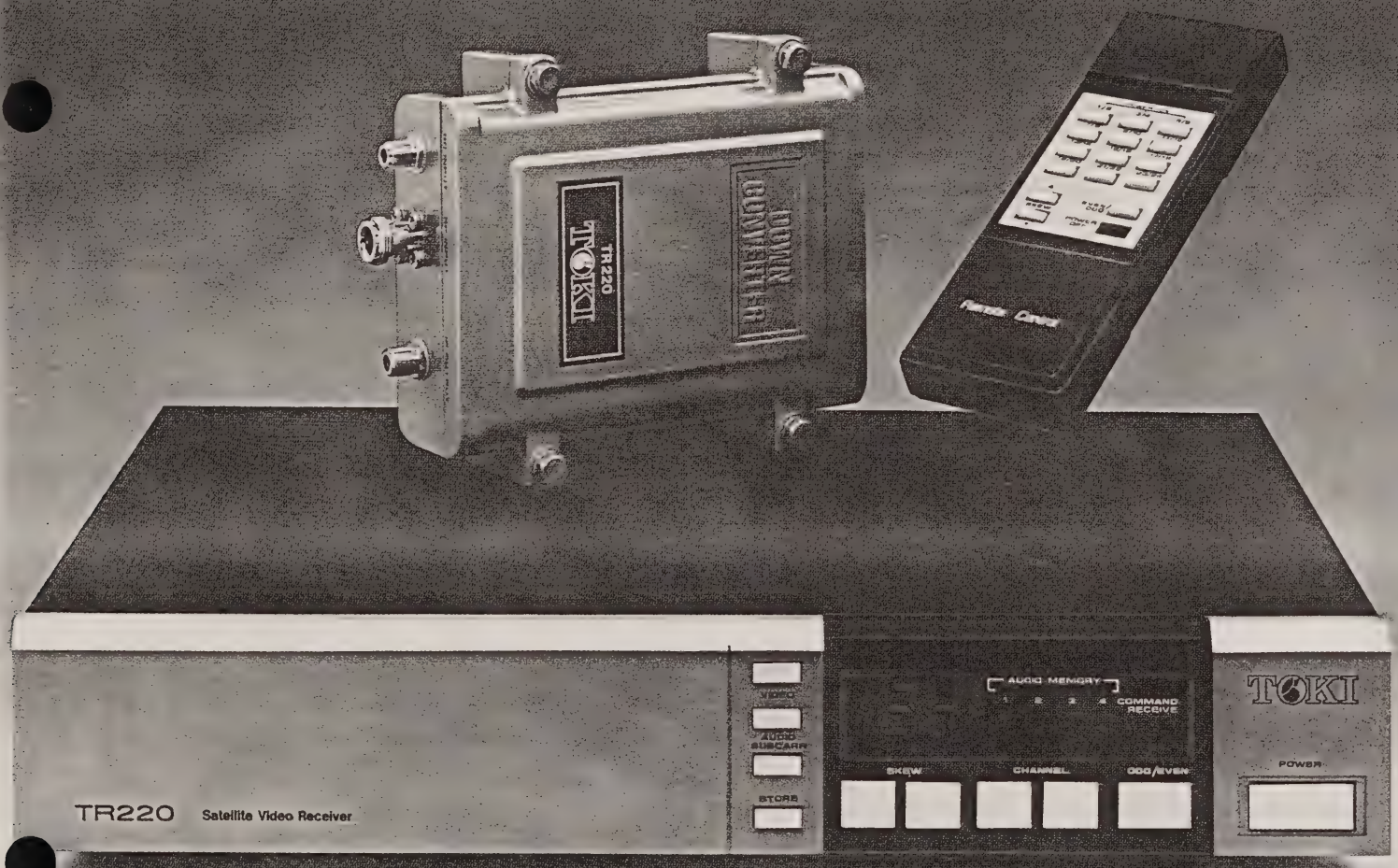
CANADA
No. 18 — 11151 HORSESHOE WAY
RICHMOND, B.C., V7A 4S5, CANADA
(604) 272-5282
TELEX: 04 351273 ATT. TOKI

Distributed by:

TOKI

TR220

INFRARED COMMANDER



For Your Convenience

TOKI = THE HIGHEST QUALITY & RELIABILITY IN SATELLITE TVRO ELECTRONICS

FEATURES

- Excellent frequency response with full range of 3.7 - 4.2 GHz provides linear transponder selection.
- Built-in AFC
- Built-in Polarotor control (Polarotor No. 1)
- Built-in Modulator 3 & 4
- Wide range AGC (more than 45dB.)
- Infrared remote control
- Polarotor fine tune skew control on both receiver and remote commander
- Local TV/Satellite signal input automatic change
- Weathertite downconverter housing
- Built-in back-up power for memory
- Digital readout for easy tuning
- Scan function
- Satcom/Westar format changeability
- Presettable audios
- Outstanding styling

SPECIFICATIONS

• RECEIVER

Input frequency:	70 MHz
Input level:	-50 dBm to -5 dBm
Input impedance:	75 ohm unbalanced
Connector:	Type F female
Tuning voltage output:	+1 to +16V
L.N.A. power output:	+18 VDC
IF Bandwidth (3 dB):	24 MHz
AGC dynamic range:	40DB nominal
Baseband demodulation:	PLL type
Video de-emphasis:	CCIR rer 405-1 curve A
Video output level (at 10.7MHz dev.):	1V p-p
Video output connector:	RCA phone jack
FM threshold:	less than 8dB
Energy dispersion removal:	40 dB
Audio system:	Mono
Audio tuning:	Preset Memory
Audio tuning range:	4.8 to 8.2 MHz
Audio output level:	-6dBm (nominal)
Audio output impedance:	600 ohm unbalanced
Audio output connector:	RCA phone jack
AC power input:	117V 60 Hz
RF modulation output:	65 ± 5 Bμv
Odd/Even polarity:	Polarotor No. 1

• DOWNCONVERTER

Conversion type:	Single Conversion
RF input freq. range:	3.7 to 4.2GHz
RF input level:	-30 dBm to -60 dBm
RF input impedance:	50 ohm
RF input connector:	Type N female
Noise figure:	13 dB nominal
Image rejection:	20 dB min.
IF output:	70 ± 15MHz
IF impedance:	75 ohm unbalanced
IF output, DC power connector:	Type F female
DC power input:	+18DVC
Tuning voltage:	2 to +15VDC

• REMOTE COMMANDER

Useful range:	up to 33ft within ± 30 Degree
Power:	
Odd/Even channel selection with skew	DC + 9V (use 006P type)
Power On/Off	

• PHYSICAL DIMENSIONS

Receiver:	15"Wx11.7"Dx3"H
Downconverter:	5.5"Wx7"Dx2"H
Remote Commander:	2.4"Wx7.1"Dx1"H

FOR FURTHER INFORMATION

IN U.S.A. CONTACT

TOKI

8240 LANKERSHIM BOULEVARD
NORTH HOLLYWOOD, CALIFORNIA
91605-1694
(818) 768-4565

IN CANADA CONTACT

TOKI

CANADA
No. 18 — 11151 HORSESHOE WAY
RICHMOND, B.C., V7A 4S5, CANADA
(604) 272-5282
TELEX: 04 351273 ATT. TOKI

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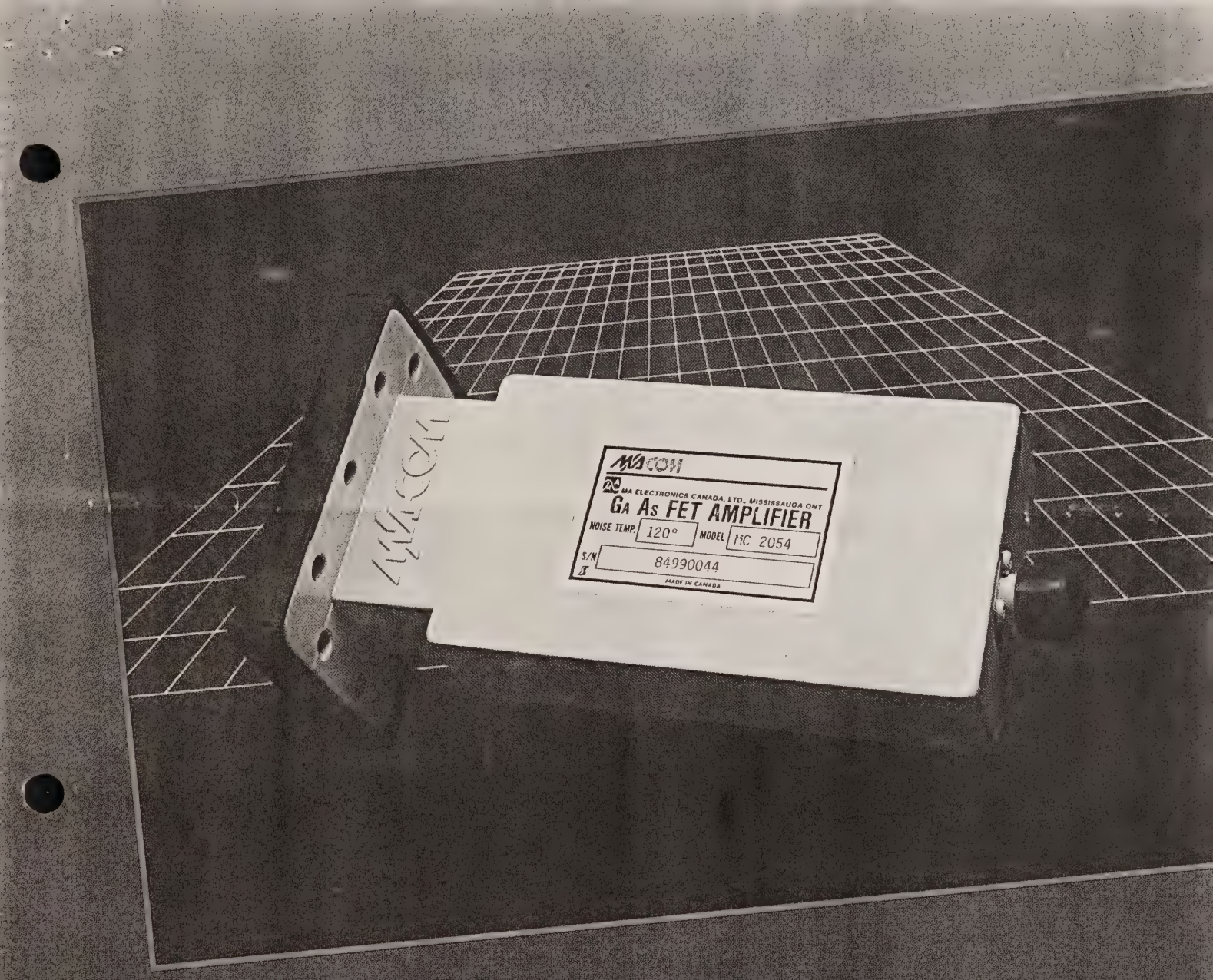
CABLE HOME GROUP

LNA'S

Satellite Receivers Ltd.

414-432-5777



THIS LNA IS DIFFERENT. IN FACT, IT'S QUITE REMARKABLE!

The new M/A-COM LNA is the best, most reliable low noise amplifier you can buy.

We've replaced the standard front end ferrite isolator with a new microstrip hybrid isolator. This means a lighter weight unit. And, even more important, the hybrid front end isolator ensures a reliable matching to all antenna and polarizer types. Our unique hybrid front end isolator provides absolute stability under all interface match conditions and over the full temperature range.

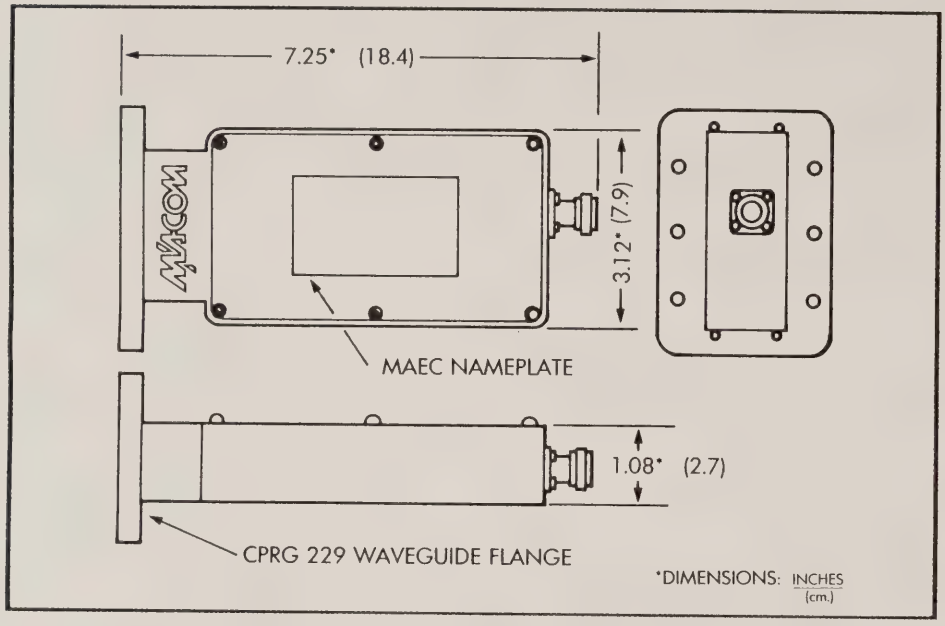
That's not all. We've integrated a new filter structure into our LNA which improves interference suppression and eliminates wideband image problems. We've also included a lightning resistent M/A-COM grounded input coupling and an extra heavy duty flange which reduces the risk of damage from mishandling.

Best of all, every M/A-COM low noise amplifier is 100% computer tested using a liquid nitrogen cooled reference traceable to the National Bureau of Standards (you get the printout). In addition, every M/A-COM LNA is backed by our twelve month direct replacement warranty.

Why take a chance? Go with the reliability and years of field experience built into every M/A-COM LNA.

MACOM

MODEL MC 2054 SPECIFICATIONS



NOISE FIGURE OPTIONS

MC 2054 – 120	120°K
MC 2054 – 100	100°K
MC 2054 – 90	90°K
MC 2054 – 85	85°K
MC 2054 – 80	80°K
MC 2054 – 75	75°K

ELECTRICAL SPECIFICATIONS

Frequency Range:	3.7-4.2 GHz
Noise Temperatures at 20°:	Options 75°K to 120°K
Noise Figure (-50°C to + 60°C):	0.01 dB/°C typical
Gain at 20°C:	44 dB typical
Gain Variation (-50°C to + 60°C):	± 2.0 dB maximum
Gain Flatness:	± 1 dB maximum
Gain Slope (dB/MHz):	± .02 dB maximum
Input VSWR:	2.0: 1 maximum
Output VSWR:	1.7: 1 maximum
1 dB Compression Point:	+ 10 dBm typical
Third Order Intercept Point:	+ 20 dBm typical
DC Input:	+ 15 to 28V at 120 mA maximum
Operating Temperature Range:	-40° C to +60° C

NOTE: Specifications subject to change without notice.

MECHANICAL SPECIFICATIONS

Case:	Weatherproof
Connector Input:	CPR 229 Flange
Connector Output:	'N' Type Female
DC Feed:	Via Output Coaxial Cable
Mounting:	Via Flange
Weight:	1.6 lbs max (0.73 Kg)

DISTRIBUTED BY:

MA ELECTRONICS CANADA LIMITED
3135 Universal Drive
Mississauga, Ontario L4X 2E7 Canada
(416) 625-4605 TWX 610-492-4317

Printed in Canada.

A DISTRIBUTOR FOR

CABLE HOME GROUP

Satellite Receivers Ltd.

414-432-5777

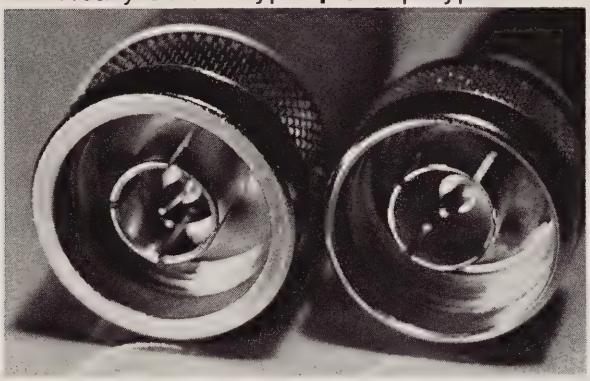
CABLE

Why Are SAT-PAK LNA CABLES

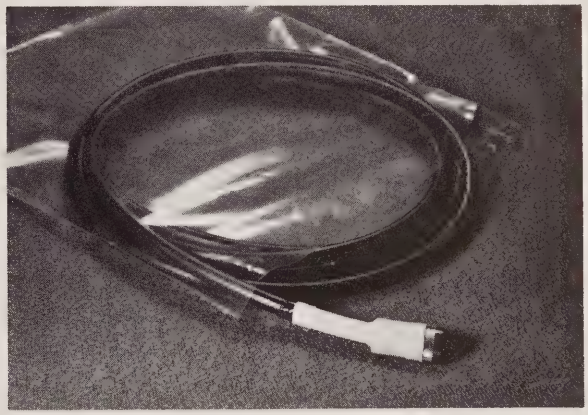
Considered the **BEST?** Lets count the ways

1. ★**Compare Connectors**

SAT-PAK Heavy Solder Type | Others use Lighter Crimp Type



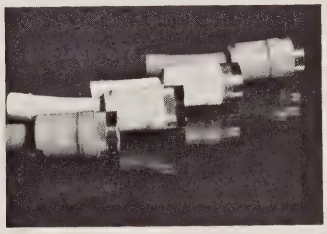
2. ★**Each Cable** comes in a **Sealed** plastic bag (to protect the ends from contaminates)



3. ★**Belden Cable** (Every inch 100% Sweep Tested) SAT-PAK doesn't hop from cable to cable looking for "deals". With Belden you're assured of uniformity on **EVERY** unit.

BELDEN

4. ★**Color Coded Weather Boot** (To Keep Out that well Known Enemy - **Moisture** and protect your LNA.)



5. ★**Assembled** by Professional Quality Conscientious Technicians

6. ★**Unconditional Warranty**

7. ★**All Pins** are double checked for Length and Placement (No more broken or damaged LNA's)

*Now you know why SAT-PAK is #1. Distributors who seek **quality** products that will last, know that a crimp-on connector or a dealer trying to assemble a LNA cable in the field **just won't do.** They supply the best - They Supply SAT-PAK.*

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LNA CABLES

SAT-PAK
Redmond, OR 97756

A DISTRIBUTOR FOR

M/A-COM

CABLE HOME GROUP

Satellite Receivers Ltd.

414-432-5777

LIFTS

PenTec MTI Systems Proudly Created in the U.S.A.

"Black Magic"

PenTec

MTI Systems Proudly Created in the U.S.A.

MTI 2800 Stardrive Antenna Positioner

The MTI 2800 is a manual East/West Satellite Antenna Positioner. It provides continuous display of antenna location and is an inexpensive solution to satellite antenna positioning. The large L.E.D. indicators are legible from across the room, and allow for simple control of positioner with the optional handheld infrared remote control. The system contains the controller/power unit, the Saginaw actuator, 125 feet of actuator cable, and the optional handheld infrared control unit.

- Large, Easy to Read Display.
- Infrared Remote (controls positioner as well as Chaparral Polarotor II™).
- Protected Against Power Failures and Transients.
- Low Profile Design.

PenTec/MTI Systems information may be obtained at:

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Wholly owned subsidiary of PenTec Enterprises Inc. Salt Lake City, UT (801) 972-4817 TELEX 453013

050-0000-004

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MTI 4100 Infrared Remote Control Antenna Positioning System

The MTI 4100 opens a new era in remote control Satellite Antenna Positioning. It is superior to any other product due to its positioning accuracy, ease of operation, reliability, and safety. The MTI 4100 includes automatic polarization control with the Chaparral Polarotor I™, with fully independent satellite skewing. The MTI 4100 fully integrates infrared command reception and decoding, Polarotor pulse generation, and motor control in the same chip, drastically increasing our reliability as compared with other products which have separate circuits. The result is the finest positioning system available in the marketplace today.

- No Battery required (non-volatile memory).
- Low Profile Design.
- Polarotor I™ control with automatic skewing.
- All functions Infrared remote controlled.

PenTec/MTI Systems information may be obtained at:

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Satellite Receivers Ltd.

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SATELLITE RECEIVERS, LTD.
1740 Cofrin Drive
Green Bay, WI 54302
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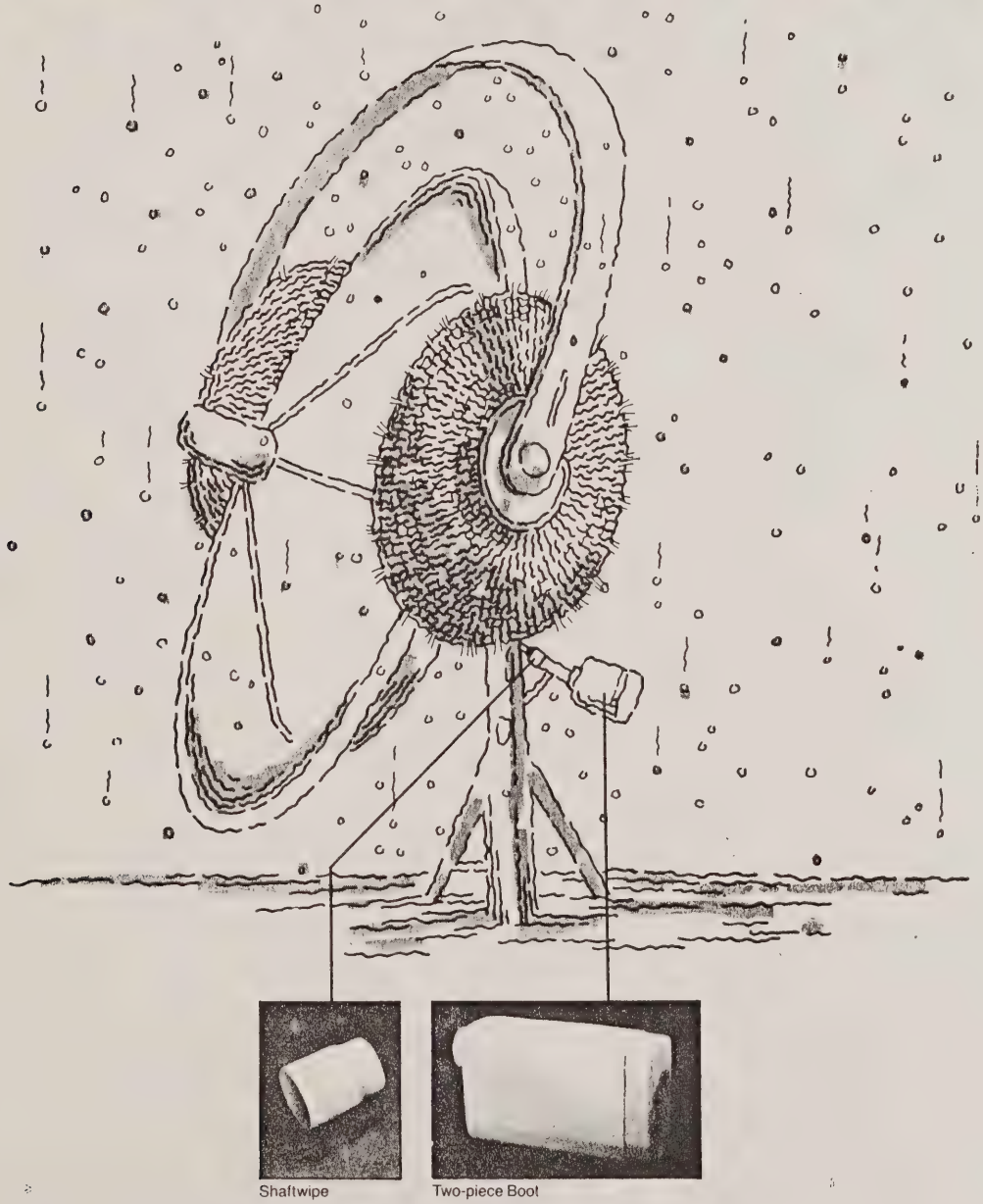
Winterize your TVRO...cheap.



Shaftwipe

Two-piece Boot

Protect your investment from foul weather and corrosion. The ESA Winterizer kit installs quickly on virtually all TVRO automatic positioning jacks. The molded, neoprene shaftwipe keeps hostile elements out of the drive mechanism. The two-piece boot protects the motor and gearworks. The ESA Winterizer kit is cheap insurance. Get one TODAY!

Earth Station Accessories

M/A-COM Feed Support

The M/A-COM Prodelin Feed Support is the component you can sell with confidence. Our full line of component products are backed by three decades of experience; an investment in research, testing, and development that places M/A-COM's components at the forefront in satellite technology.

The feed support is designed exclusively for Prodelin's state-of-the-art 2.4 M, 3.0 M and 3.7 M reflectors. The pre-set focal length support eliminates costly field adjustments and provides maximum feed support.

Features

- Designed exclusively for Prodelin's 2.4 M, 3.0 M and 3.7 M reflectors.
- Pre-set focal length eliminates field adjustments.
- Aluminum casting with environmentally protective chromate finish.
- Rear polarization adjustment, eliminates front polarization adjustment signal loss.
- Available for use with plane, dual and variable polarization feeds.
- Available for most feeds including M/A-COM's Omni Spectra polarizer and Chaparral's polarotor.

Printed in U.S.A.

M/A-COM
CABLE HOME GROUP
PRODELIN Satellite Antenna Systems
P.O. Box 1729 • Hickory, NC 28603
800/438-3331 • 704/324-2200 • Telex: 802-166

A DISTRIBUTOR FOR

MOUNTS

Satellite Receivers Ltd.

414-432-5777

M/A-COM Universal Mount

The versatile M/A-COM Prodelin universal mount is designed to perform over a wide range of terrain and diverse operating conditions. M/A-COM's 30 years of experience in the industry has produced a mount design that allows virtually unlimited choice of location sites; yet, is engineered for fast, easy, and economical installation.

Optional tripod mount shown.

- The mount for Prodelin's 10' reflector uses 4 point pick-up to provide uniform reflector support to the parabolic contour for increased signal quality.
- The mount, shipped partially assembled, reduces costly on-site assembly time.
- The exclusively designed Prodelin polar mount tracks the entire visible arc.
- Mount design applicable for either east or west coast installation.
- Declination settings from 2°-10° allow virtually unlimited installation sites.
- Rugged steel construction with a painted, protective finish provides durability and long life.
- Optional mast available as a tripod mount or a 9 ft. lg. 3½ in. dia. Schedule 40 inground mast.

Printed in U.S.A.

M/A-COM

CABLE HOME GROUP

PRODELIN Satellite Antenna Systems
P.O. Box 1729 • Hickory, NC 28603
800/438-3331 • 704/324-2200 • Telex: 802-166

8' mt Instructions.

3.OM UNIVERSAL MOUNT ASSEMBLY INSTRUCTIONS

M/A-COM
CABLE HOME GROUP
Prodelin Antenna Operations

January 5, 1984
PID 656

UNIVERSAL MOUNT ASSEMBLY

Reflector Arm Attachment :

1. Attach reflector arms to channel brackets with 5/8-11 x 1-1/2 hardware assembly. Do not tighten hardware until instructed.

   NOTE: 3.0M universal mount has 4 arms. Two arms are drilled for actuator angle attachment. Drilled arms should be orientated 180° apart.

2. Remove the arm mounting plate assembly (1) from the universal assembly (9).
3. Attach plate assembly to arms with 1/2-13 x 1-1/2 hardware assembly. Handtighten bolts.

   NOTE: Plate determines the top and bottom of the reflector. If plate is improperly installed, a negative declination will result during tuning. Top of plate is indicated by a stamped "T" between the declination plates. If the plate is unmarked, the top may be determined by the hole locations in the declination plate (2). The hole closest to the outer edge of the declination plate indicates plate top.

4. Tighten all 5/8-11 x 1-1/2 bolts securing arms to channel brackets. Hardware should be tightened in an alternating sequence.
5. Tighten all 1/2-13 x 1-1/2 bolts securing plate assembly to reflector arms.

Reflector Installation :

1. Remove 1-8 x 6 bolt (3) securing universal joint assembly (9) to canister.
2. Remove 5/8-11 x 3-1/2 bolt (4) securing latitude adjustment screw (7) to universal joint assembly.
3. Remove universal joint assembly (9) from canister assembly.
4. Install universal joint assembly (9) to arm mounting plate (1).

Actuator Installation :

1. Install actuator angle (10) to one of the two drilled reflector arms. (Actuator angle attachment determined by east/west coast installation site.)
2. Install motorized actuator or handcrank to actuator angle (10) and actuator mounting plate (11).

3. Tighten all actuator assembly hardware.

NOTE: Installing and securing actuator assembly prevents reflector from pivoting and possibly damaging the reflector during installation.

4. Position canister assembly on mast.
5. Tighten bolts securing canister to mast.

NOTE: Overtightening of bolts may result in thread stripping.

6. Install reflector assembly on mast.
7. Install 1-8 x 6 bolt and hardware assembly (3). Handtighten hardware assembly.
8. Install 5/8-11 x 3-1/2 bolt and hardware assembly (4). Handtighten hardware assembly.
9. Assemble feed horn and feed support. Install feed support in reflector assembly.

AIMING PROCEDURE

Latitude Adjustment:

NOTE: Canister bolts must be tightened against mast during aiming procedure.

1. Align reflector with north/south polar axis.

Note: The north/south polar axis is the 1-8 x 6 bolt (6) securing the declination channel assembly to the universal joint assembly. All latitude settings must be taken by placing a protractor,(Craftsman Universal Protractor recommended) on the back of the 6" channel and measuring the complementary angle to determine the proper site latitude angle. (See complementary angle definition below)

Complementary Angles - Two angles whose sum equals 90°.

Ex. If site latitude is 37°, complementary angle taken from protractor placed on the back of the 6" channel (5) should read 53°.)

2. Inspect the latitude adjustment screw (7). Screw must be able to pivot during latitude settings. Nuts should not restrict screw movement.

3. Adjust antenna to the proper site latitude setting by lifting the reflector assembly until the proper complementary angle is achieved. (Ex. Complementary angle would be 53°, if site latitude is 37°.)
4. Tighten latitude adjustment screw assembly (7) .
5. Tighten 1-8 x 6 bolt assembly (3) .
6. Tighten 5/8-11 x 3-1/2 bolt assembly (4) .

Declination Adjustment :

1. Loosen the two 5/8-11 x 7-1/2 bolts securing arm mounting plate to declination channel assembly.
2. Adjust the declination setting by varying the position of the 1/2-13 nuts on the threaded stud (8) .

NOTE: Declination adjustment readings should be determined by placing an inclinometer on the outer edge of the declination plate (2) . The reading taken from the complementary angle (as specified in the latitude Adjustment Section, Step 1).

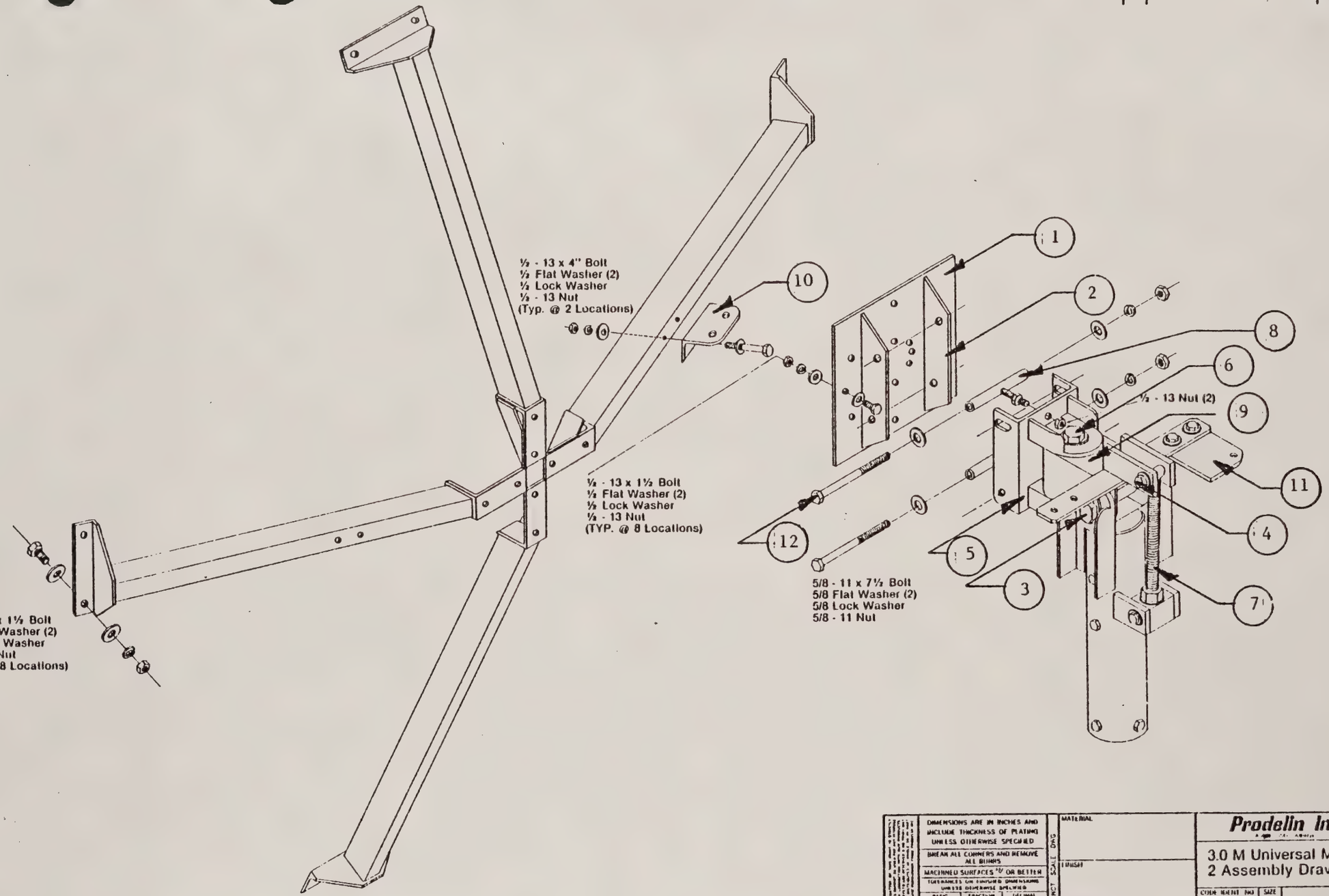
Ex. (For an installation site with 6° declination.) The complementary angle, as determined in step 1 of Latitude Adjustment, is 53°. The inclinometer reading, taken on the declination plate's outer edge , is 47° The equation, 53° - 37° = 6° is the declination angle.

2. Tighten 5/8-11 x 7-1/2 hardware assembly (12) .
3. Tighten 1/2-13 nuts on threaded rod (8) .

Antenna Fine Tuning :

1. Elevate the reflector to the look angle of the desired satellite by adjusting the actuator.
2. Loosen the canister and rotate the antenna to align with the north/south polar axis. Once fine-tuned tighten the canister bolts in the following sequence: Tighten two upper canister bolts, orientated 180° apart. Tighten two lower canister bolts, orientated 180° apart. Tighten all remaining canister bolts.

NOTE: Overtighting of bolts may result in thread-stripping.



REVISIONS

SYM	DESCRIPTION	APPD

DIMENSIONS ARE IN INCHES AND INCLUDE THICKNESS OF PLATING UNLESS OTHERWISE SPECIFIED

BREAK ALL CORNERS AND REMOVE ALL BURRS

MACHINED SURFACES 125 OR BETTER

TOLERANCES ON UNSIZED DIMENSIONS UNLESS OTHERWISE SPECIFIED

BASIC	FRACTION	DECIMAL
UP TO 6	± 1/64	± .005
6 TO 24	± 1/32	± .010
ABOVE 24	± 1/16	± .015

ANGULAR DIMENSIONS ± 1/2°

DO NOT SCALE DWG

MATERIAL

FINISH

DRAFTSMAN

CHECKER

ENGRG APPD.

Prodelin Inc.

3.0 M Universal Mount-2 Assembly Drawing

CODE IDENT NO	SIZE
94661	D

SCALE

SHT OF

A DISTRIBUTOR FOR

M/A-COM

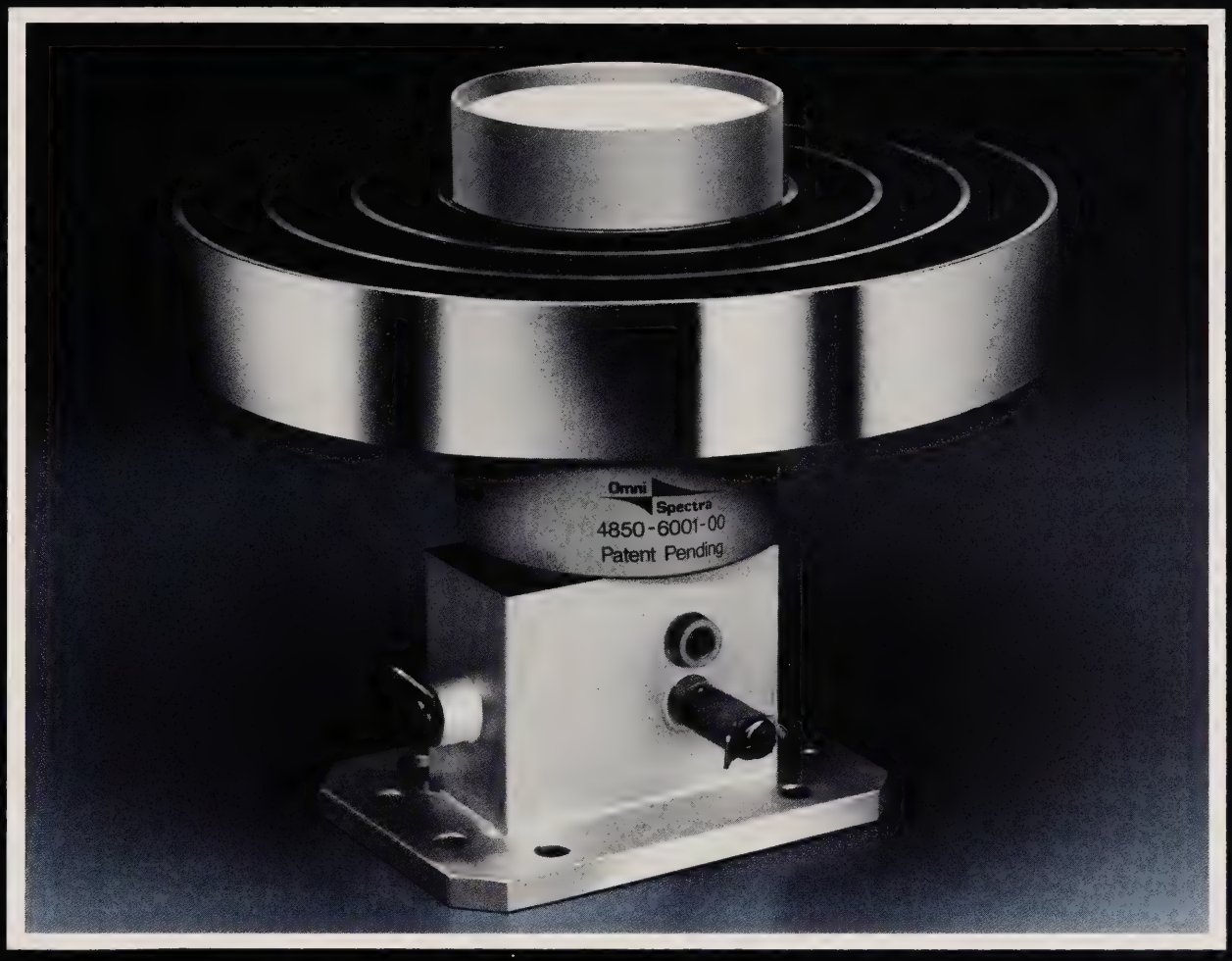
CABLE HOME GROUP

POLARIZERS

Satellite Receivers Ltd.

414-432-5777

OMNI POLARIZER*



M/A-COM

Omni Spectra

M/A-COM OMNI SPECTRA, INC

OMNI POLARIZER*

M/A-COM Omni Spectra, Inc. introduces the world's first polarization switch featuring solid state reliability. The Omni polarizer allows the TVRO user to switch instantaneously between horizontal and vertical polarization with the flick of a switch.

Features include:

- ☐ Solid state reliability, no moving parts
- ☐ Low operating current
- ☐ Simple switching without tweaking
- ☐ No system degradation — low VSWR, low loss
- ☐ Small, lightweight construction
- ☐ Low cost
- ☐ Temperature stable

M/A-COM Omni Spectra's new solid state TVRO polarization switch provides a simple yet rugged and reliable solution to dual polarity reception. At prices comparable to antiquated mechanical rotating feeds. Compare these features:

- ☐ **Superior Electrical Performance:** Low loss and VSWR inherent in the design provides reception comparable to single plane polarized feeds. Test have actually shown improved performance, when Omni Spectra's switch replaced similar single feeds.
- ☐ **Rugged and Reliable:** Solid state reliability replaces moving parts used in conventional polarization rotation. The simplicity of the design insures trouble free operation under the most adverse conditions, in any climate.
- ☐ **Low Power Consumption:** Switching is accomplished by changing the polarity of the applied dc bias, which can be as little as 60 millampres at voltages over 1.5 volts. Optional dc drivers are also available.
- ☐ **High Speed Switching:** The switch is designed for switching at speeds of under ½ microsecond with no reception lost.
- ☐ **No Adjustments:** Simply install and align in parabolic feed assembly, connect to your LNA and you're ready to receive. Absolutely no tweaking or adjustments are required thereafter.
- ☐ **Scalar:** Improved design with calibration for various antenna f/d ratios.
- ☐ **Centerline Design:** Direct replacement for any scalar feed horn-LNA combination.
- ☐ **Lightweight:** Feed 17oz.
  Scalar 7oz.
  Total 24 oz.
- ☐ **Low Cost:** Large volume production results in a switch alternative at prices comparable to single plane feeds.
- ☐ **High Quality:** M/A-COM Omni Spectra has developed one of the finest reputations for quality in the industy.

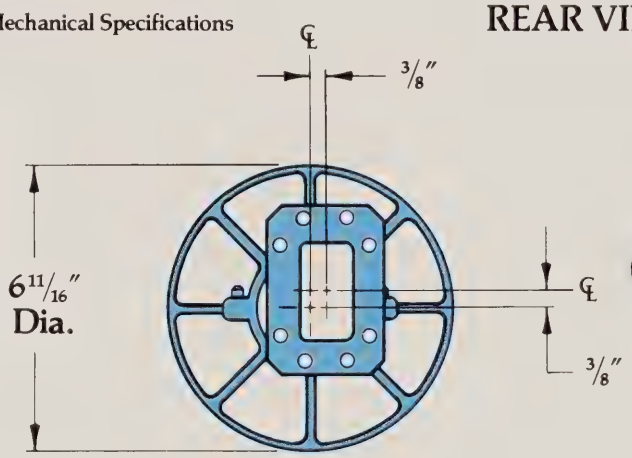
*Pat. Pending

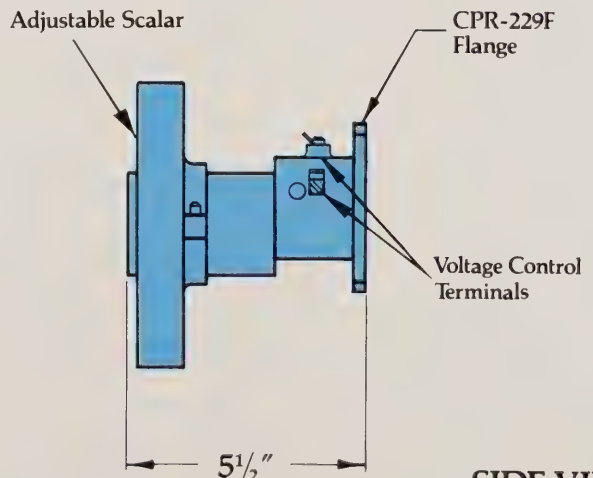
Detailed Specifications

Frequency:	3.7-4.2 GHz
Insertion Loss:	.20 dB Typ.
VSWR:	1.35:1 Typ.
Vert.-Horiz. Isolation:	20 dB Typ.
Polarization Accuracy:	90°±.5° over full freq. range
Bias Current:	30 milliamps + 12 volts dc
Switching Speed:	0.5 microsecond max.
Temperature Range:	−40°F to + 180°F

Mechanical Specifications

REAR VIEW





SIDE VIEW

M/A-COM OMNI SPECTRA, INC

M/A-COM Omni Spectra, Inc.
21 Continental Boulevard
Merrimack, NH 03054
Telephone (603) 424-4111 TWX: 710366-0674

OMNI
PULSE DECODER

Advanced Product Information from Omni Spectra

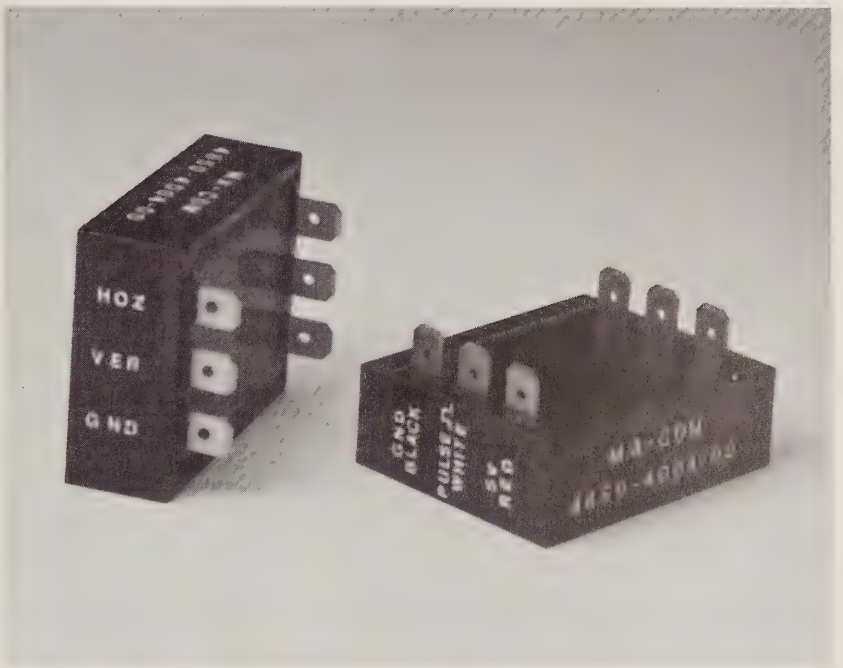
M/A-COM Omni Spectra's new Pulse Decoder interfaces the Omni Polarizer with many of today's popular TVRO receivers not equipped with solid state polarization output control. The Pulse Decoder converts receiver polarization output to voltages required to operate the Omni Polarizer and achieve instantaneous polarization switching.

This low cost solid state device is easily installed external to the receiver and requires no power supply.

The Pulse Decoder is now available from M/A-COM Omni Spectra, Inc. and its authorized distributors.

FEATURES

- All-weather epoxy encapsulation.
- Solid state reliability.
- Self-adhesive mounting.
- Easy installation.
- Interfaces with popular receivers designed to operate with mechanical polarization switches.



SPECIFICATIONS

- Interfaces with Omni Polarizer, Part Numbers 4850-6001-00 and 4580-6002-00, and the following receivers:
  - USS/Maspro Model SR-1
  - Luxor Model 1909530
  - Similar receivers with pulse driving signals as defined below
- Input Signal Required: (three terminals)
  - 4.8 to 6.0 volts dc
  - 1.5 millisecond (ms) positive pulse
  - Ground
- Output Signal: (three terminals)
  - 4.0 volts dc switched between two terminals
  - Ground
- Power Consumption: 30 milliamperes (mA)
- Dimensions: 2 in. × 1.6 in. × .7 in.
- M/A-COM Omni Spectra Part Number: 4850-4004-00

M/A-COM Omni Spectra, Inc.
21 Continental Boulevard
Merrimack, NH 03054
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OMNI ROTOR®

MACOM

Omni Spectra

M/A-COM OMNI SPECTRA, INC

OMNI ROTOR™

M/A-COM Omni Spectra has advanced the state of the art in mechanical polarization feeds with Omni Rotor. The Omni Rotor has been designed to deliver greater reliability and better performance than any other mechanical polarization rotor available. Compare these features:

- ☐ **Superior Mechanical Performance:** The motor housing is an integral part of the aluminum cast feed assembly resulting in a completely sealed unit protected against moisture, ice and dirt. Unique torque converter gives smooth and repeatable tuning and minimizes wear.
- ☐ **Superior Electrical Performance:** Broadband design has been matched to provide low insertion loss and VSWR comparable to single plane feeds.
- ☐ **Reliability:** Designed with reliability as a priority, the Omni Rotor is completely sealed and features a failsafe motor.
- ☐ **Full Range Tuning:** The Omni Rotor can be rotated and tuned 0-180°, eliminating installation problems due to phase control.
- ☐ **Adjustable Scalar:** The Omni Rotor comes with an adjustable scalar to optimize antenna illumination for various f/d ratios. Scalars are also predrilled for standard installations. No additional rings or adapters are required.
- ☐ **In-line Design:** Direct in-line design simplifies installation and eliminates right angle bends.
- ☐ **Standard Electrical Interface:** Omni Rotor uses a standard pulse drive voltage format provided by many receivers today. The Omni Controller is available for independent control.

f/d	"A" Dimension (set in inches)	Beamwidth (degrees)
.30	.75	159
.35	.62	146
.40	.38	130
.44	Flush	121

Scalar Adjustment Table

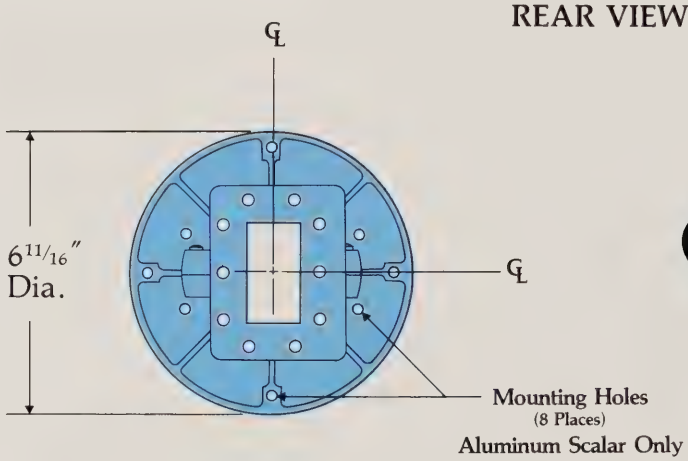
Omni Rotor is a trademark of M/A-COM Omni Spectra, Inc.

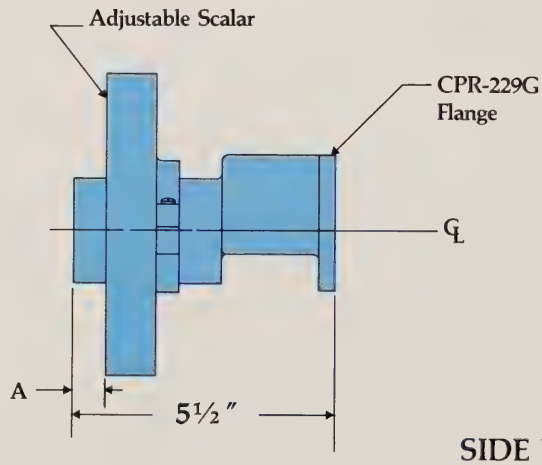
Detailed Specifications

Frequency:	3.7 - 4.2 GHz
Insertion Loss:	.1 dB Typ.
VSWR:	1.25:1 Typ.
Vert. - Horiz. Isolation:	35 dB
Temperature Range:	−40°F to +180°F
Electrical:	
Pulse:	.9 to 4.0 ms at 4.5 volts
Power:	+4.5 ± 1.0 volt dc; 450 ma Max.
Ground:	Earth
Part Number:	4850-6007-00

Mechanical Specifications

REAR VIEW





SIDE VIEW

M/A-COM OMNI SPECTRA, INC

M/A-COM Omni Spectra, Inc.
21 Continental Boulevard
Merrimack, NH 03054
Telephone (603) 424-4111 TWX:710-366-0674

MACOM OMNI ROTOR

NEW PRODUCT Of The Month

"There will be no basis for patent infringement." Speaking is **Bruce Smith** of **Omni-Spectra** and the product he is cautioning you about is the brand new **'Omni-Rotor,'** a mechanical type of feed rotation device which Omni openly compares to 'Brand C (X)' point for point right down the line.

The Omni-Spectra polarizer system was the subject of an intensive technical study in **CSD** magazine (March 1, 1984). Omni's approach to allowing the consumer to select between vertical and horizontal polarized signals has been 'different' than other polarization-switching feeds from day one. In **CSD** we found out what those differences amounted to, and what the limitations of the 'Polarizer' might be. If Omni was doing it 'their way,' why would they announce a brand new feed system based upon 'mechanical rotation.' Smith again.

"**The marketplace obviously requires two different approaches to feed systems. NO single system satisfies the demands of every TVRO terminal packager. It was our intention to be a** complete **feed supply source and for that reason we have elected to announce the new** "Omni-Rotor' **feed.**"

The Omni-Rotor is an in-line design with some 'twists.'

1) The drive motor system uses something called **torque multiplication.** This places a gear between the probe and the motor. Omni believes this is a better mechanical system than directly driving the probe with the motor shaft. The motor is enclosed.
2) The probe is **larger** than 'Brand C' and of a **differing design.** Omni says this keeps their product 'unique' and it will not infringe on the patent rights of others in the field.
3) The scalar feed plate is **adjustable,** in the field by the installer, for dishes from .28 to .4 f/D. This eliminates, suggests Omni, retrofitting a special part to the feed for those .3 region dishes.
4) The controller, scheduled to be first shown in Las Vegas at the SPACE show, uses some 'new solid state technology.' It is 'user friendly,' meaning that it will **'remember skew'** settings for a particular satellite. It has a single button control and it drives forward and reverse by simply applying pressure on the switch.

Pricing? Smith again.

"**We are going to be price-competitive** but we do not intend to undercut the present marketplace position pricing established by 'Brand C'." Interpretation? Omni-Spectra will price their new Omni-Rotor feed pretty much like Chaparral prices their Polarotor.

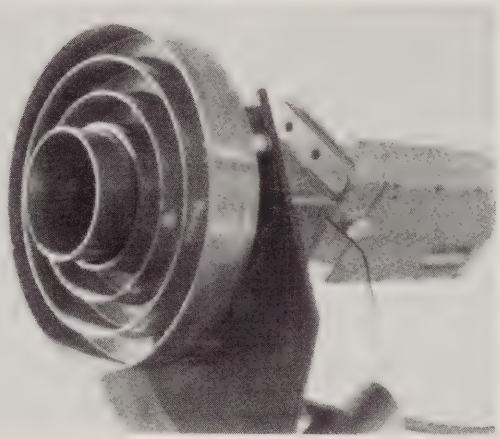
"**We intend to compete on the basis of product quality** and service to the distributor/dealer/user chain. There will be no (initial) price differentiation. The buyers used to have a single quality choice in this product area; **now they have two.**"

Performance? Omni-Spectra dispatched an early production model of the Omni-Rotor to **CSD** in mid-February. The shipment was less the new solid state, IC-designed controller since it was not available at the time. We immediately put it to work on a test dish system.

Because the scalar plate is designed with a series of holes, you can interface the feed with just about any antenna mounting system out there. We removed the feed (a Chaparral Polarotor 1) from a test dish and substituted the Omni-Rotor. The dish was a .38 region f/D dish and we adjusted the scalar plate accordingly. **There was no detectable difference between the two feeds in performance.**

Next we took a .3 f/D feed off of a second dish and substituted the Omni-Rotor feed. The scalar plate was readjusted at the throat for the new f/D. And again, we could detect no operational differences between the two feeds.

OMNI-ROTOR PACKAGE from Omni-Spectra



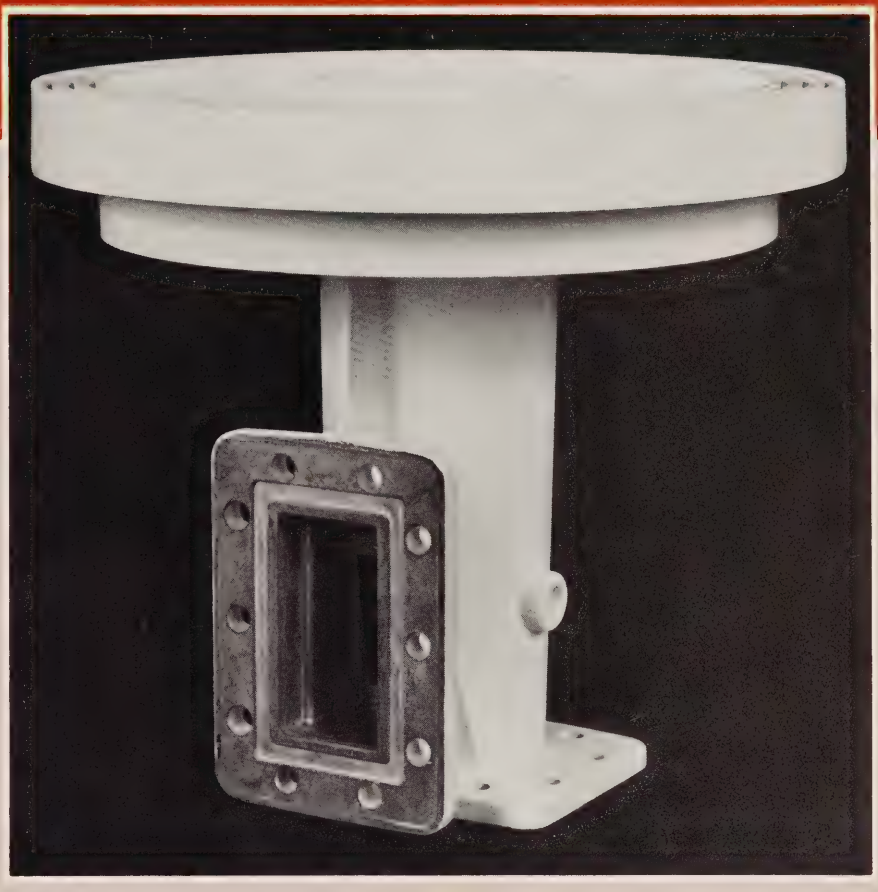
OMNI-ROTOR installed on test dish was optimized for peak performance.

While this is the sort of quick product for product substitution which many dealers would (and will!) engage in, this type of 'testing' is not meant to be a replacement for a proper bench and test range analysis of the performance of a feed. **CSD** recently completed an extensive feed antenna 'series' in print which showed how such testing is conducted. Without access to a suitable laboratory or test range in the limited time prior to publication, we can only pass along another Smith quotation regarding specs.

"**The Omni-Rotor has VSWR and efficiency ratings equal to or better than the ratings for** 'Brand C.' **We intend to reduce the competition to product field quality and product service levels only and we are not leaving any room for the competition to make any claims about superior performance.**"

The new feeds will be appearing at Omni-Spectra distributors as you read this. More information from **Omni-Spectra** at 21 Continental Blvd., Merrimack, NH 03054 **(603/424-4111).**

M/A-COM Dual Feed



The M/A-COM Prodelin Dual Feed for commercial applications is designed for high performance and cost efficiency. The dual feed as with our other full line of component products utilizes M/A-COM's 30-years of experience in testing, research and development; an investment that today produces satellite components that are state-of-the-art.

The uniquely designed dual feed offers improved performance with use of single piece aluminum castings which also contribute to reduced costs. Another feature allows simultaneous reception of both polarizations, eliminating mechanical and electrical switching. It is designed for f/D ranges of .30 to .40 operating at 3.7 to 4.2 GHz frequency ranges. Mating flanges are CPR 229 compatible.

Dual Feed Specifications

—f/D Range	.30 to .40
—Frequency Range	3.7 to 4.2 GHz
—VSWR	1.15/1
—Isolation	35dB
—RF Ports	Two Flanges CPR 229 Compatible

Printed in U.S.A.

M/A-COM
CABLE HOME GROUP
PRODELIN Antenna Operations
P.O. Box 468 • Newton, NC 28658
800/222-1195 • 704/464-4141 • Telex: 704-830

A DISTRIBUTOR FOR

M/A-COM

CABLE HOME GROUP

Satellite Receivers Ltd.

414-432-5777

ANTENNAS

M/A-COM 8 ft. (2.4 M) Antenna System

The M/A-COM top-of-the-line 8 ft. Antenna System is produced with the most advanced engineering and manufacturing expertise available. M/A-COM's 30 years of satellite technology is evidenced in the quality performance of the system's 8 ft. Reflector, Universal Mount, and Feed Support. The 8 ft. Antenna System—so complete and built with such precision—it could only come from M/A-COM.

Features

8 ft (2.4 M) Reflector

- Prodelin's state-of-the-art compression molded fiberglass reflector.
- 3 segmented, lightweight petals provide ease of handling and reduce shipping costs.
- Interlocking tabs for positive self-alignment and ease of installation.
- F/D = .373 with a 35.8" focal length.

Feed Support

- Pre-set focal length eliminates field adjustments.
- Aluminum casting with environmentally protective chromate finish.
- Available for most feeds including M/A-COM's Omni Spectra polarizer and polarotor.

Universal Mount

- The mount for Prodelin's 8' reflector uses 3 point pick-up to provide uniform reflector support to the parabolic contour for increased signal quality.
- Shipped partially assembled reducing costly on-site assembly time.
- Designed to track entire visible arc.
- Optional mast available as a tripod mount or 9 ft. lg. 3½ in. dia. Schedule 40 inground mast.
- Declination settings from 2°-10° allow virtually unlimited installation sites.
- Mount design applicable for either east or west coast installation.

Printed in U.S.A.

M/A-COM
CABLE HOME GROUP
PRODELIN Antenna Operations
P.O. Box 468 • Newton, NC 28658
800/222-1195 • 704/464-4141 • Telex: 704-830

M/A-COM 3.0 M Reflector

Over 30 years of antenna engineering and manufacturing experience has produced M/A-COM Prodelin's 3.0 M reflector. The state-of-the-art 3.0 M is built to the highest performance standards; qualities characteristic of M/A-COM's full line of reflectors designed for home and commercial use.

—Cubic Feet: 64.4

—Weight: 220 lbs.

—Color: Beige

Temperature Range: Operational -40° C to +60° C

Atmospheric Conditions: Impervious to salt, pollutants, and corrosive contaminants as encountered in coastal and industrial areas.

MEETS OR EXCEEDS MIL-STD-810-C

—8 individual reflector panels are interchangeable and field replaceable.

—Reflector's segmented design reduces size of shipping containers and transportation costs.

—Fiberglass composition of petals is extremely lightweight to provide ease of handling from delivery-to-site-to installation.

—Textured uniform front surface diffuses sunlight and reduces solar heating at the focal point.

—Interlocking tabs provide positive self-alignment to simplify reflector assembly.

—F/D = 0.298 with a 35.8" focal length.

Printed in U.S.A.

M/A-COM
CABLE HOME GROUP
PRODELIN Antenna Operations
P.O. Box 468 • Newton, NC 28658
800/222-1195 • 704/464-4141 • Telex: 704-830

PRODELIN

3.7M Earth Station Antenna with T-Bar Az/El Mount

DESCRIPTION

Prodelin's versatile T-Bar mount antenna system is designed for fast, easy and economical installation. The parabolic reflector is easily assembled from 10 identical self-aligning segments of lightweight compression-molded fiberglass* material providing an exceptionally strong strength-to-weight ratio and easy trouble-free installation.

The antenna comes complete with reflector, T-Bar mount and feed. The mount's pointing accuracy is within .2° at 65 mph winds and designed to withstand 125 mph winds with optional braces. A prime focus feed locates the LNA at the focal point of both the plane and dual polarized receive only antennas.

It is easily erected on site with no special tools or equipment. The 10 ft. lg. 6 in. dia. inground mast can be easily purchased by the customer locally to reduce transportation costs and simplify pre-installation preparation.

STANDARD FEATURES

- Individual reflector segments are interchangeable and field replaceable.
- Segmented lightweight reflector significantly reduces shipping costs. Segments are easily transported to installation site.
- Segments have integral indexing tabs for positive self-alignment.
- Antenna meets proposed FCC 2° spacing requirement.
- Feed can be rotated through 360° of polarization adjustment from the rear of the antenna.
- Textured front surface diffuses sunlight and reduces solar heating at focal point.
- Antenna can be erected without the use of cranes or special hoisting gear.

OPTIONAL FEATURES

- The 3.7M antenna can be supplied with high wind braces.
- 10 ft. lg. 6 in. dia. Schedule 80 inground mast.
- Also available with roof support mount.
- 3.0M antenna with T-Bar mount available.
- High performance 12/14 GHz feed available for 3.0M and 3.7M antennas.

*Patent applied for

SPECIFICATIONS

ELECTRICAL	PLANE POL.	DUAL POL.	TxRx
Catalog Number*	136-750-06	136-752-06	156-752-06
Operating Frequency Range (GHz)			
Receive	3.7-4.2	3.7-4.2	3.7-4.2
Transmit	—	—	5.925-6.425
Feed Type	Prime Focus		
Mid-Band Gain (dB)			
Receive	41.7	41.7	41.4
Transmit	—	—	44.3
VSWR	1.25	1.25	1.25
Feed Port Isolation (dB)	—	30	30
Half-Power Beamwidth (at Mid-Band)			
Receive	1.5°	1.5°	1.5°
Transmit	—	—	1.1°
First Sidelobe Level (Nom)			
Receive	18 dB	18 dB	18 dB
Transmit	—	—	20 dB
Radiation Pattern, Averaged			
29-25 log θ	$1° \leq \theta \leq 7°$		
+8 dBi	$7° < \theta \leq 9.2°$		
32-25 log θ	$9.2° < \theta \leq 48°$		
−10 dBi	$48° < \theta \leq 180°$		
Antenna Noise Temperature (°K) (Referenced to OMT Port)			
Elevation 5°	47	47	47
10°	38	38	38
20°	28	28	28
30°	24	24	24
40°	23	23	23
Feed Flange			
Receive	CPR-229G	CPR-229G	CPR-229G
Transmit	—	—	CPR-137G

*These antennas comply with FCC Rule Para. 25.209 and CCIR Recommendation 465 and Report 391-1

ENVIRONMENTAL

Temperature Range
Operational — −40°C to +60°C

Wind Loading @ 0°C (+32°F)
Operational — 104 km/h (65 mi/h) wind gusting to 136 km/h (85 mi/h)
Survival — Standard — 177 km/h (110 mi/h) without braces
Survival — Optional — 200 km/h (125 mi/h) with high wind braces

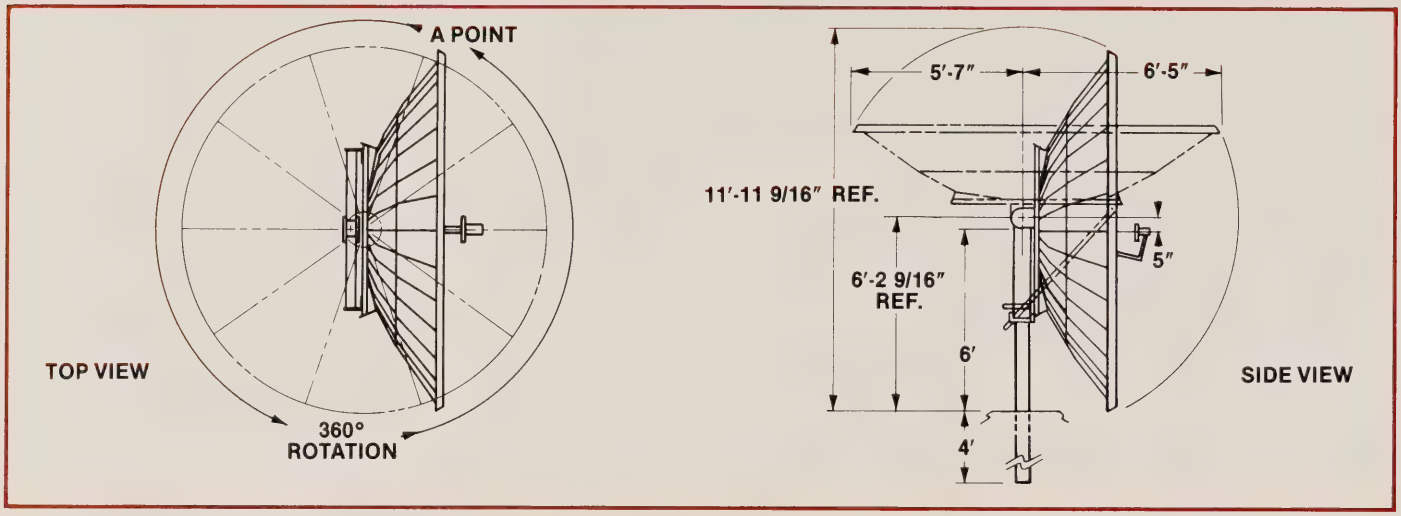
Meets or exceeds MIL-STD-810C
Atmospheric Conditions:
Impervious to salt, pollutants, and corrosive contaminants as encountered in coastal and industrial areas.

MECHANICAL

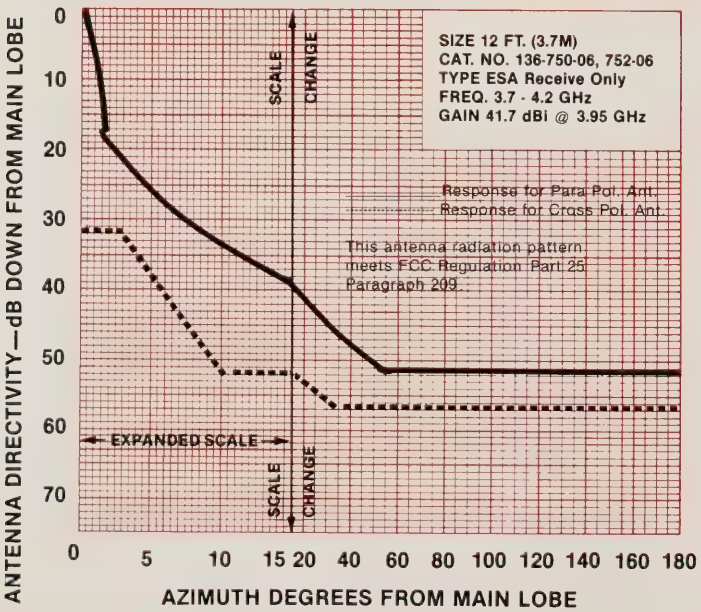
Mount Configuration— Azimuth/Elevation T-Bar Mount
Aligns to any satellite within the visible geostationary orbit serving the continental U.S.
Reflector— 10 segment fiberglass (FRP) 3.7M (12 ft.) diameter

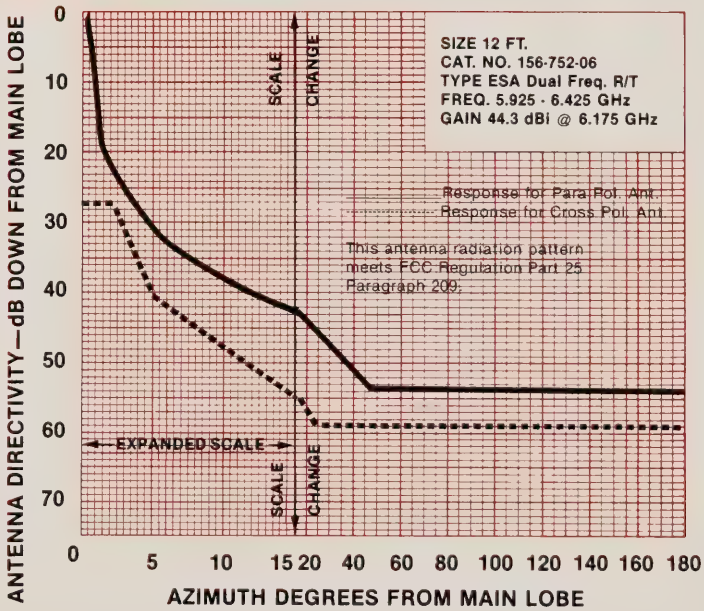
Shipping Dimensions

	Cu. Ft.	Lbs.
Reflector	91.3	340
Back-up Structure	16	460
Feed	14	50
Complete Antenna	121.3	850
Optional		
Inground Mast	2	250



RADIATION PATTERNS


SIZE 12 FT. (3.7M)
CAT. NO. 136-750-06, 752-06
TYPE ESA Receive Only
FREQ. 3.7 - 4.2 GHz
GAIN 41.7 dBi @ 3.95 GHz
Response for Para Pol. Ant.
Response for Cross Pol. Ant.
This antenna radiation pattern meets FCC Regulation Part 25 Paragraph 209.
SCALE CHANGE
EXPANDED SCALE
ANTENNA DIRECTIVITY—dB DOWN FROM MAIN LOBE
0 10 20 30 40 50 60 70
0 5 10 15 20 40 60 80 100 120 140 160 180
AZIMUTH DEGREES FROM MAIN LOBE


SIZE 12 FT.
CAT. NO. 156-752-06
TYPE ESA Dual Freq. R/T
FREQ. 5.925 - 6.425 GHz
GAIN 44.3 dBi @ 6.175 GHz
Response for Para Pol. Ant.
Response for Cross Pol. Ant.
This antenna radiation pattern meets FCC Regulation Part 25 Paragraph 209.
SCALE CHANGE
EXPANDED SCALE
ANTENNA DIRECTIVITY—dB DOWN FROM MAIN LOBE
0 10 20 30 40 50 60 70
0 5 10 15 20 40 60 80 100 120 140 160 180
AZIMUTH DEGREES FROM MAIN LOBE

FOUNDATION DETAILS

The foundation for this mount is a 10 ft. lg. 6 in. dia. Schedule 80 pipe installed in concrete. Pier dimensions are 18 in. dia. x 4 ft. deep. Concrete required is approximately 0.4 cubic yards.

Specifications subject to change without notice.

MACOM CABLE HOME GROUP
PRODELIN Satellite Antenna Systems P.O. Box 1729 • Hickory, NC 28603 800/438-3331 • 704/324-2200 • Telex: 802-166

PRODELIN

1.2 meter DBS Antenna System

M/A-COM's 1.2 meter Ku-Band DBS Antenna System is backed by more than 30 years of engineering and manufacturing experience. The reflector's one-piece design is constructed of compression-molded fiberglass* providing an exceptionally strong strength-to-weight ratio and repeatable high accuracy. Economical delivery is achieved through M/A-COM's nation wide trucking and warehouse facilities.

FEATURES:

- Meets FCC 2° spacing requirement
- DBS, CATV, SMATV, applications
- Mount design adaptable to slanted and flat roofs as well as ground mount
- Wind tunnel tested - survivability at 100 MPH
- Wind Loading - operational at 45 MPH with less than ½ db signal degradation
- Pretested cable kits with waterproof low VSWR "F" type connector available
- Environmentally tested to meet or exceed MIL-STD 810C
- Offset design eliminates collection of snow
- 1.0 and 1.8 meter reflectors available

*patent applied for

Antenna Specifications

ELECTRICAL

Operating Frequency	11.7 - 12.2 GHz
Antenna Gain	42.0 dBi Minimum
Half-Power Beam Width	1.5°
VSWR	1.2
Polarization	Linear
Polarization Adjustment	360°
First Sidelobe Level	– 25 dB Nominal

Radiation Pattern, Averaged	
29-25 log θ	Main Beam $\leq \theta \leq 7°$
+ 8 dBi	$7° < \theta \leq 9.2°$
32-25 log θ	$9.2° < \theta \leq 48°$
– 10 dBi	$48 < \theta \leq 180°$

Antenna Noise Temperature (°K) (Referenced to OMT Port)	
Elevation 10°	60
20°	50
30°	40

Cross-Polarization Suppression	– 28 dBi Minimum on Axis

GENERAL

Effective Diameter of Reflector	1.2 M
Feed Type	Offset Prime Focus
Reflector Material	Fiberglass Reinforced Polyester Resin, 1 piece
Microwave Reflecting Surface	Aluminum Screen

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M/A-COM Guywire Kit

The guywire kit is one of M/A-COM Prodelin's newest components in our full line of satellite products. Designed for improved feed stability, the guywire kit utilizes M/A-COM's product experience gained from over three decades of research, testing, and development.

The guywires are designed to secure the feed at the reflector's focal point, producing an improved picture quality by eliminating off-center feeds.

- Secures feed to reflector focal point.
- Available for all feed supports including M/A-COM Prodelin's universal feed support.
- Adjustable wire length accommodates most reflectors including Prodelin's 2.4 M, 3.0 M, and 3.7 M reflectors.
- Reduces picture distortion during adverse environmental conditions including high winds and snow loading.

Printed in U.S.A.

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M/A-COM

Prodelin

M/A-COM PRODELIN, INC.

Segmented Fiberglass Earth Station Antennas

DESCRIPTION

3.7M (12 FT.) EARTH STATION ANTENNA (PRIME FOCUS FEED)

Prodelin's 3.7 meter antennas utilize a ten segment compression molded fiberglass reflector*. A prime focus feed locates the LNA at the focal point of both the plane and dual polarized receive only antennas. A prime focus feed of waveguide design is used for transmit and receive antennas.

A polar (hour angle) type mount is supplied with this antenna. This is a 'true' polar mount and is capable of alignment with any visible satellite in the domestic geostationary orbit.

The parabolic reflector is easily assembled of ten identical self-aligning segments. The segments are made from compression-molded fiberglass (FRP) material providing exceptionally high strength to weight ratio.

*Patent applied for

STANDARD FEATURES

- Individual reflector segments are interchangeable and field replaceable.
- Feed can be rotated through 360° of polarization adjustment from the rear of the antenna.
- Segmented reflector significantly reduces size of shipping containers. Provides savings on handling and transportation costs.
- Segments have integral indexing tabs for positive self-alignment.
- Textured front surface diffuses sunlight and reduces solar heating at focal point.
- Antenna can be erected by 2 installers — without the use of cranes or special hoisting gear.

OPTIONAL AZIMUTH/ELEVATION MOUNT

- The 3.7 meter antenna can also be supplied with an optional azimuth/elevation type mount. This mount utilizes a 360° circular track to achieve full azimuth orientation. Elevation adjustment is accomplished by a single control support. Consult your Prodelin representative for details.

SPECIFICATIONS

ELECTRICAL

	PLANE POL.	DUAL POL.	TxRx
Catalog Number*	136-750	136-752	156-752
Operating Frequency Range (GHz)			
Receive	3.7-4.2	3.7-4.2	3.7-4.2
Transmit	—	—	5.925-6.425
Feed Type	Prime Focus		
Mid-Band Gain (dB)			
Receive	41.7	41.7	41.4
Transmit	—	—	44.3
VSWR	1.25	1.25	1.25
Feed Port Isolation (dB)	—	30	30
Half-Power Beamwidth (at Mid-Band)			
Receive	1.5°	1.5°	1.5°
Transmit	—	—	1.1°
First Sidelobe Level (Nom.)			
Receive	18 dB	18 dB	18 dB
Transmit	—	—	20 dB
Radiation Pattern, Averaged Envelope per FCC 25-209 32-25 log θ 10 dBi	$1° \leq \theta \leq 48°$ $48° \leq \theta \leq 180°$		
Antenna Noise Temperature (°K) (Referenced to OMT Port)			
Elevation 5°	47	47	47
10°	38	38	38
20°	28	28	28
30°	24	24	24
40°	23	23	23
Feed Flange			
Receive	CPR-229G	CPR-229G	CPR-229G
Transmit	—	—	CPR-137G

*These antennas comply with FCC Rule Para. 25.209 and CCIR Recommendation 465 and Report 391-1

ENVIRONMENTAL

Temperature Range Operational	—40°C to +60°C
Wind Loading @ 0°C (+32°F) Operational	96 km/h (60 mi/h) wind gusting to 136 km/h (85 mi/h)
Survival	200 km/h (125 mi/h) with no ice; 140 km/h (87 mi/h) with 51 mm (2") radial ice

Meets or exceeds MIL-STD-810B

Atmospheric Conditions:
Impervious to salt, pollutants, and corrosive contaminants as encountered in coastal and industrial areas

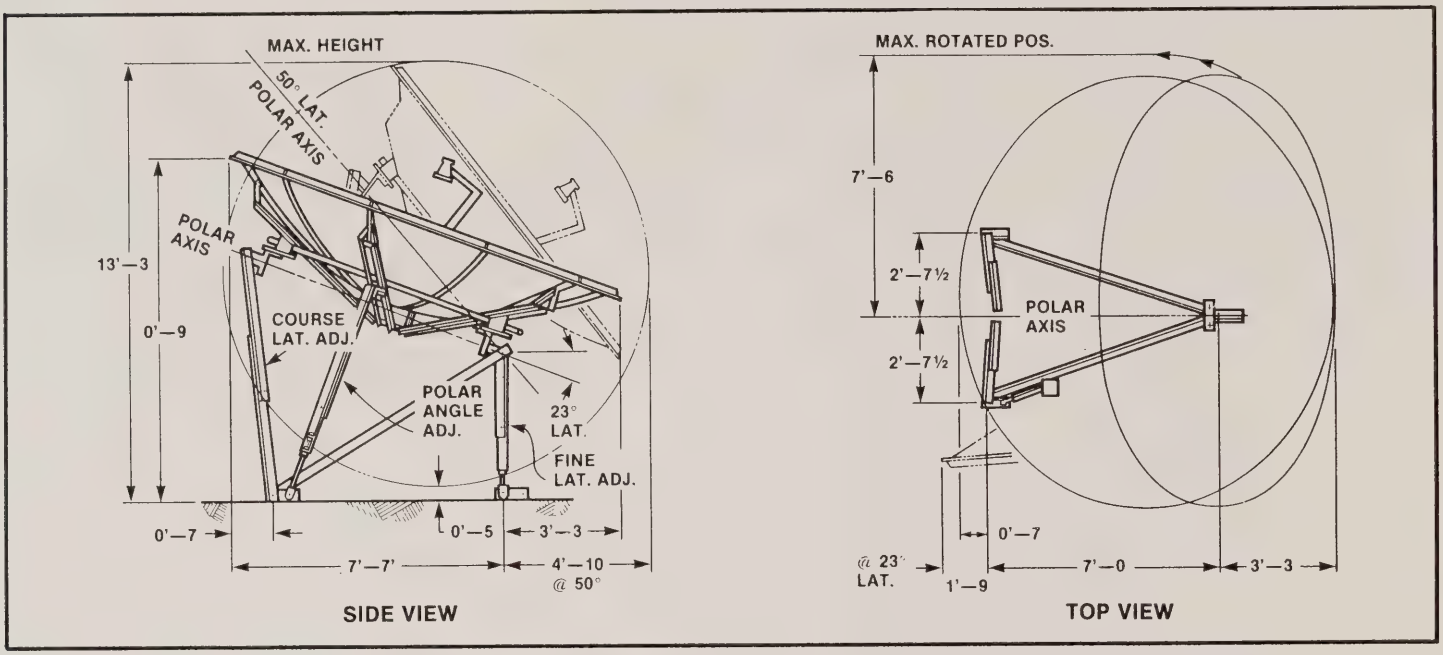
MECHANICAL

Mount Configuration — Polar (hour/angle)
Aligns to any satellite within the visible geostationary orbit serving the continental U.S.

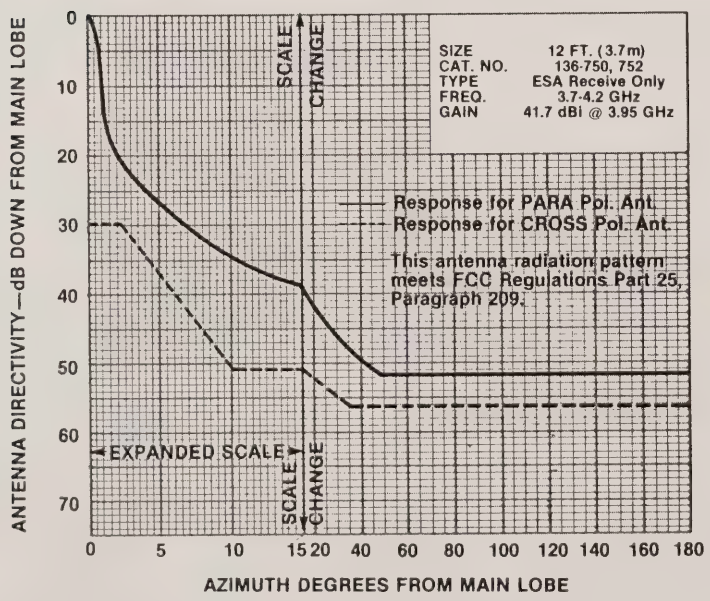
Reflector — 10 segment fiberglass (FRP) 3.7M (12 ft.) diameter

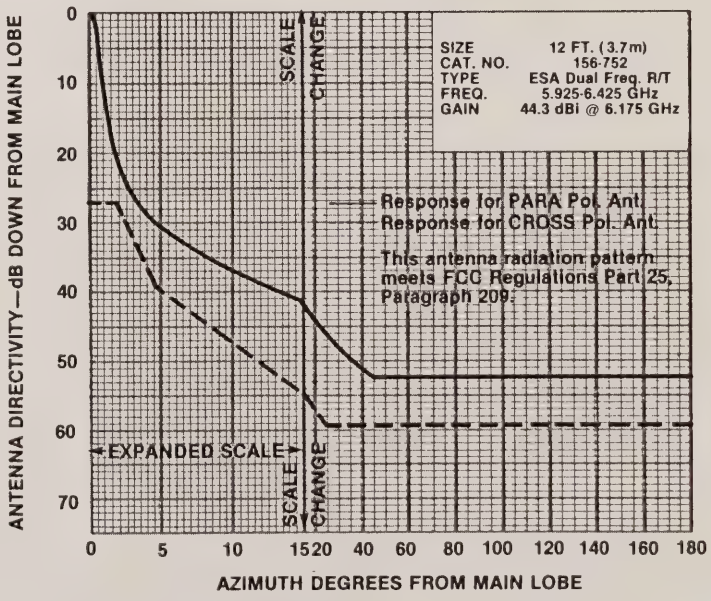
Shipping Dimensions

	Cu. Ft.	Lbs.
Reflector	94	575
Back-up structure	3.5	156
Polar Mount	3.5	300
Feed	10	47
Complete Antenna	111	1078



RADIATION PATTERNS





FOUNDATION DETAIL

The foundation for this mount is typically three (3) piers of reinforced concrete. Pier dimensions are 2 ft. dia. x 5 ft. deep. Total concrete required is approximately 1.8 cubic yards. Foundation requirements are subject to soil bearing capacity.

R1502A ESA

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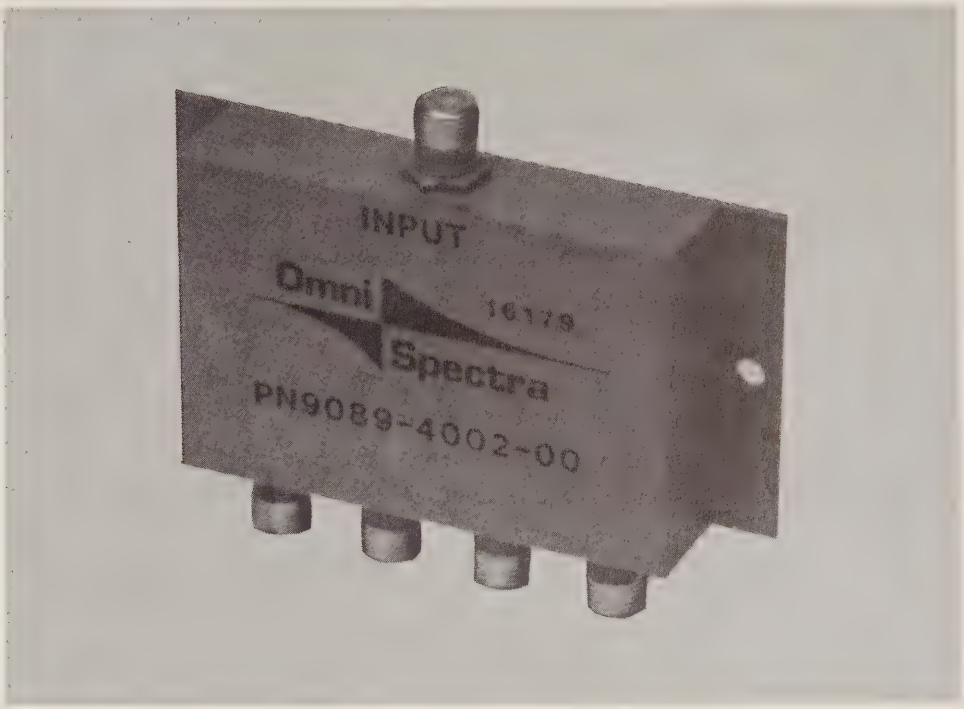
950-1450 MHz
TVRO
POWER DIVIDERS

Advanced Product Information from Omni Spectra

M/A-COM Omni Spectra, Inc. announces new 75 ohm TVRO Power Dividers which feature improved reception over conventional units. Reflected Power and Loss through the dividers offer channel separation 50% better than competing types, further reducing cross-talk between channels. Configurations include 2-,4-, and 8-way power dividers operating from 950 to 1450 MHz.

For information on our complete line of high performance power dividers and other TVRO accessories, including the Omni Polarizer, contact the factory or the M/A-COM TVRO Products Distributor nearest you.



Specifications*

Part Number	Type	VSWR (Max)	Isolation (dB Min)	Insertion Loss (dB Max)	Amplitude Balance (dB)	Size (Inches) A	B
9089-4001-00	2-Way	1.20	20	0.4	±0.10	2	2
9089-4002-00	4-Way	1.20	20	0.6	±0.15	3	2
9089-4003-00	8-Way	1.20	20	1.1	±0.25	6	2

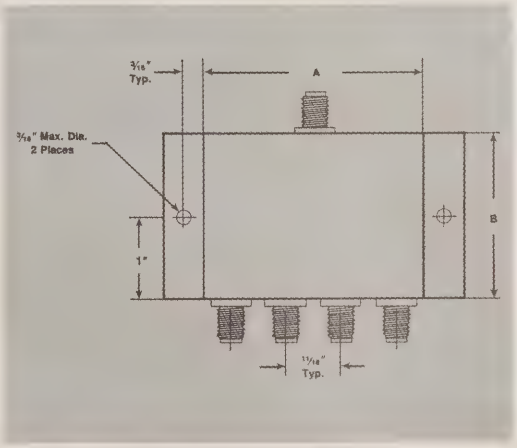
* Characteristic Impedance, 75 ohms

NOTES:

Connectors: "F" type female Brass nickel plated.

Housing: Aluminum with gray epoxy paint.

Mechanical Data



Specifications subject to change without notice.

M/A-COM Omni Spectra, Inc.
21 Continental Boulevard
Merrimack, NH 03054
Telephone (603) 424-4111
TWX: 710 366-0674

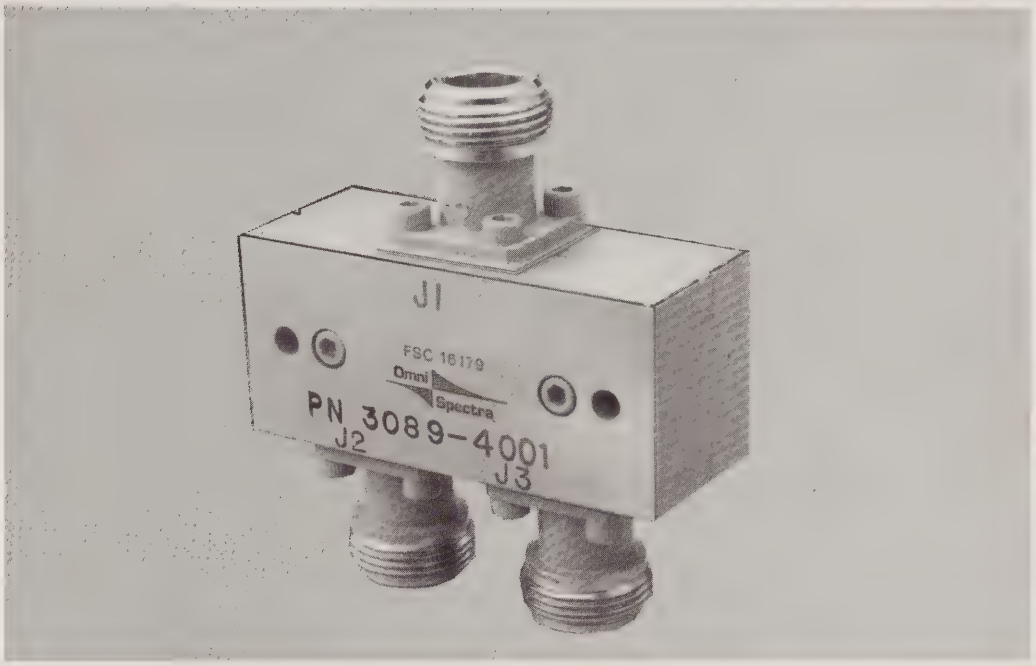
3.7 - 4.2 GHz
TVRO
POWER DIVIDERS

Advanced Product Information from Omni Spectra

Power dividers for Television Receive Only (TVRO) MATV and CATV applications are available from Omni Spectra, Inc. Operating in the communications band (3.7 - 4.2 GHz), these units exhibit low power loss of only .25dB.

2-, 4-, and 8-way TVRO Power Dividers are available from stock.

For information on our complete line of high performance power dividers, contact your local representative or the factory.



Specifications*

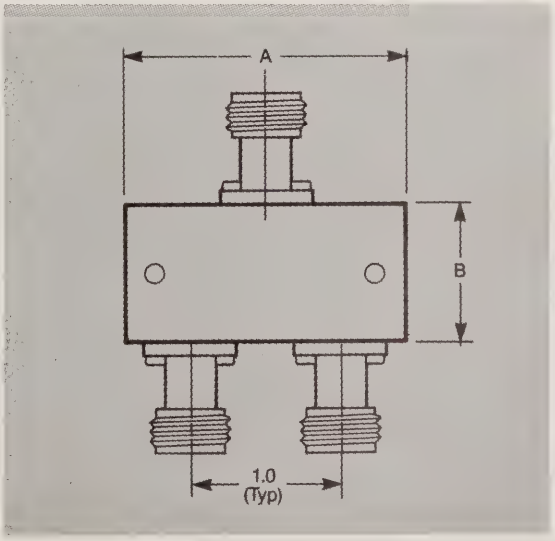
Part Number	Type	VSWR (Max)	Isolation (dB Min)	Insertion Loss (dB Max)	Amplitude Balance (dB)	Size (Inches) A	B
3089-4001-00	2-Way	1.20	20	0.25	±0.10	2.25	1.00
3089-4002-00	4-Way	1.20	20	0.50	±0.15	4.00	2.13
3089-4003-00	8-Way	1.20	20	1.00	±0.20	8.00	3.13

*Characteristic impedance, 50 ohms

NOTES

1. "N" type female connectors standard
2. Delivery: Stock for 2- and 4-way, consult factory for 8-way.
3. Connectors: Brass nickel plated
4. Housing: Aluminum with gray epoxy paint.
5. Also available with "F" type connectors which operate across the 950-1450 MHz frequency range.

Mechanical Data



Specifications subject to modification

M/A-COM Omni Spectra, Inc.
21 Continental Boulevard
Merrimack, NH 03054
Telephone (603) 424-4111
TWX: 710 366-0674

Discover Over 101 Television Channels At Home.

With a satellite system from your authorized M/A-COM dealer you will enjoy over 101 television channels at home, 24 hours a day.

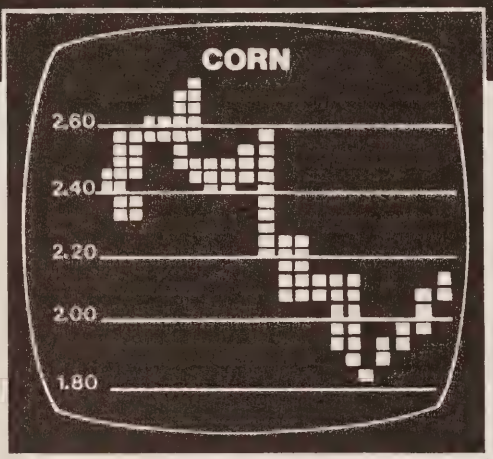
Shows like sporting events, the latest movies, family entertainment, fashion news, stocks and commodities, news shows, educational features, weather reports, and more.

Your M/A-COM dealer delivers that exciting galaxy of programs with the best quality satellite communications equipment available.

Explore the possibilities of satellite TV with your authorized M/A-COM dealer.

Dealer Imprint

WHEN A PRICE SWING IN THE COMMODITY MARKETS MEANS OPPORTUNITY, YOU'VE GOT TO KNOW.



In today's agricultural economy you can't afford to be uninformed. With your own satellite television receiver, you can get up-to-the-minute quotes on grain and livestock prices, along with expert commodity analysis. It's like having the same timely information as a broker with a seat on the Chicago Board of Trade.

It's all at your fingertips with a MACOM home satellite receiver. You'll also be able to enjoy great family entertainment including exciting Hollywood movies and specials, professional sports broadcasts and news reports.

With a MACOM home satellite receiver, it's all at your fingertips. The latest market information direct to your home or office. Because in today's economy, you've GOT to know.

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$2995

INVEST IN THE BEST

Our earth station is not your normal backyard variety. It's manufactured by MACOM, the world's leading manufacturer of telecommunications equipment. It's economical, yet it's performance and reliability are comparable to commercial equipment used by cable companies.

SYSTEM PRICES AS LOW AS

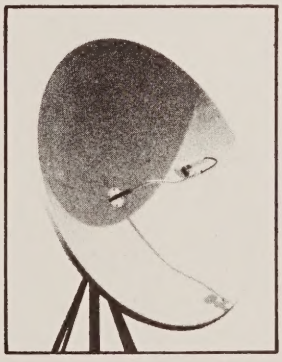
MACOM

(Dealer Name Here)

TELEVISION NEVER LOOKED SO ENTERTAINING, UNTIL NOW.

Hollywood Specials, Arts Performances, Health Programs, and Much More.

Television will never be the same... not when you own your own satellite television receiver. Imagine the best in professional sports broadcasts, uncut and uninterrupted feature movies, up-to-the-minute commodity and stock prices quoted direct to you, 24-hour news coverage, special health, hobby, educational and financial programs. Plus, live symphony, ballet and concert performances from the entertainment capitals of the world. And children's and religious programming, too. All right in your own living room. Now, **that's entertainment.**



M/A-COM

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